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RANDOM RECORDS OF A LIFETIME

DEVOTED TO SCIENCE AND ART, 1846-1932

BY W. H. HOLMES III

VOLUME XV

MASTERPIECES OF ABORIGINAL AMERICAN ART

The random relics here brought together give but a hint of the riches of the vast field of Aboriginal American Art.

Section I Sculpture

Section II Chipped Stone

Section III Pottery

Section IV Stucco

Section V Mosaic

Section VI Architecture

Section VII Metal Work

Section VIII Peru - Bolivian Examples

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PROFESSOR HOLMES AND THE SMITHSONIAN INSTITUTION

June 30th, 1931.

One year more

It may not seem out of place, since the Director's official life is nearing its close, to record here briefly his connection with the Smithsonian Institution. A first fact of interest in the story is that he was born on the same day with the Institution, December 1st, 1846. Just sixty years ago he entered the north door of the Institution an entire stranger, and proceeded to sketch a brilliantly colored bird installed in one of the Museum cases. He was observed at this work and, as a result, was soon engaged in drawing natural history specimens for the resident professors. In 1872 he was appointed artist to the Survey of the Territories under Dr. F. V. Hayden and took part in the survey of the Yellowstone Region. In 1874 he was appointed Assistant Geologist on the Survey then working in Colorado and has found his services continuously called for in the fields of both science and art. Advancing step by step and from year to year in both branches he finds himself today a member of the National Academy of Sciences and Director of the National Gallery of Art. His varied activities in these fields are recorded in upwards of fifty annual reports made to the departments with which he served. In his 85th year he is still at his desk in the National Gallery of Art.

VOLUME XV

SECTION I SCULPTURE

Detail study of Stela F, Quirigua, showing the large human head on the south face. From the painting by Joseph Lindon Smith.

Courtesy of Peabody Museum Cambridge

MASTERPIECES OF ABORIGINAL AMERICAN ART.

IV - Sculpture in the round.

In speaking of masterpieces of art we usually think of the highest products of genius among civilized nations, but we are at liberty to think of the best works of any people whatsoever the culture status as the masterpieces of that people. Extending our vision thus into the field of prehistory we may think of the highest work of long vanished races as the masterpieces of the particular time, place, and people, thus opening up a vast perspective of masterpieces beginning in the foreground with the highest achievement of the master sculptors of the modern world, and extending backward to the very inception of culture. At the vanishing point we find the earliest masterpiece in the first stone from which a chip was designedly removed by the hand of man. This chipped stone was, however, for the man of that day an achievement quite as

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remarkable as the greatest product of the sculptor's chisel of the present period.

In referring to certain of the sculptural works of the American aborigines as masterpieces, comparison is not thus implied with the masterpieces of the Old World. They are the work of a people still well within the shadows of the stone age, yet a close examination makes it apparent that the aborigines possessed aesthetic gifts and appreciation of a high order and it may be said without great risk of contradiction that no known people ~~while~~ not yet within the confines of the atomic age has ever approached them in works of taste in sculpture, wood carving, metal work, architecture, painting and the ceramic and textile arts. They sought to beautify whatever they touched and even the things of ordinary use were embellished with painstaking care. While we think of this

taste for elaboration and diminish as due to the prompt-
ings of the aesthetic sense, there is no doubt that in
large part it was due to the requirements of religion,
for there was little in the life of the Indian that did
not have to be considered in its relation to the gods,
and the gods, as created and interpreted by the priest-
hood, granted their favors especially to those who offered
the first fruits of the land and the best that their hand
of man could make.

With the Americans stone was used to shape stone,
although in Mexico and Peru bronze had been invented and
was used to an undetermined extent. The implements were
of the simplest kind - hammers of stone for fracture and
hammers and rudely shaped picks and chisels for crumb-
ling and incising, and stones of varied shape and tex-
ture for grinding and polishing. The processes were
essentially the same, however, as those employed in

civilized art although the devices for their operation were of the simplest kind. All are agreed that considering the primitive character of the implements, the extent and perfection of the work are hardly short of the marvelous.

Before passing on to the consideration of the varied products of the soulptor's art I must stop to pay tribute to a very humble implement - the stone hammer, doubtless the first tool employed by the first sculptor i the world. The story of this implement as gradually brought to light by archeological science in recent years is exceedingly interesting. Although at first a bowlder merely or any ~~incoarte~~ adapted bit of stone ~~a fragment of slightly specialized form~~, it may be justly regarded as the most important objective factor in the evolution of civilization. It served in shaping stone, first by fracture and then by crumbling and abrading and the skill acquired

THEOSIS OF STONE HAMMER.

by long ages of experience in this work led finally to the manipulation of metal. All shaped things are thus its children - all tools, implements, utensils and machines employed in all the arts - all works of art - the masterpieces of sculpture, the temples and palaces; all great inventions - the ships that sail the sea and the air, the engines that move the world and even the engines of war that destroy cities and annihilate armies; all alike owe their existence to this simple tool. Save for the part it has taken in the scheme of evolution man would have remained a hunter of game and a gatherer of wild fruits with only unshaped stones and improvised clubs. His uncultured hands would have continued to serve as those of the ape to battle his enemies and to secure food to sustain life. Of all man-made and man-used things the stone hammer is most worthy of deification but the days of deification of inanimate things are past

and it would be a travesty to erect a monument however magnificent in its honor for it has erected for itself a greater monument than man can build; all of humanity, all of civilization, all of culture - material and immaterial - constitute its vast and noble monument.

Skill in the technic of the sculptural arts was acquired through the manufacture of implements and utensils long before the thought of representing a living form entered the human mind, and it may be surmised that the first suggestions of the sculpture of living forms in the round came through attempts to elaborate suggestive natural forms in stone such as are plentifully supplied by calcareous and other concretions. Thus a concretion suggesting an animal shape would be improved by boring holes for eyes and scratching a slit for the mouth, and so on, and later sculptured forms

would be produced ab initio. Although pick and chisel like implements of stone were employed by the sculptor of primitive times it is not to be forgotten that without the stone hammer these tools could not have been made.

The initial steps in the representative arts both plastic and graphic were essentially religious in inspiration and the sculptor devoted his attention to the carving of images of the multifarious deities to which he imagined himself subject. In their higher phases these arts passed gradually under the influence of the esthetic sense and the spell of beauty for beauty's sake supplemented the sordid requirements of superstition.

Sculpture of the human form in the round, practiced in many simple forms from very early times, lagged behind the other forms of representation as culture advanced, doubtless in large part because of the difficulties of

execution. In the main it remained in the archaic stage to the end. Numerous examples of sculpture of the human form in the round are recovered from the sites of ancient culture centers but none are so elaborated as to lead to the belief that they were carved as was the case with the Greek statuary, to gratify the esthetic sense simply. Relief work, however, comparatively easy of execution rose to distinctly high levels and many examples exist in which appreciation of the perfection of line form, and proportion are clearly manifest. Portraiture was practiced in a formal way, the generalized national type of visage being habitually adhered to with possibly individualized details of features, dress, and symbolism which served to distinguish partigular subjects. Facial expression ran the gamut from the expressionless block of stone to extreme forms of the grotesque and the awe-inspiring, but the smile or laugh as we understand these expressions

of emotion seem to have found little place in aboriginal art. In the greater culture centers of Mexico and Central America, carvings of the human figure in the full round are rare. Figures seated, standing or reclining are rigid in pose and the hands and the limbs are rarely entirely free from the block body while the hands and feet clearly indicate the narrow limitations of the art as a means of expression.

importance have escaped the hand of the Christian vandal. Among the crumbling ruins of the Aztec cities are battered fragments of many important works and numerous figures carved in the living rock of the cliffs are today represented by fragmentary traces which show that even gunpowder was employed in their destruction. A human figu e of large size, executed in bold relief on the face of a great rock in Chapultepec park, City of Mexico, has been destroyed by blasting, the drill holes in the shoulder and in the sculptured base being distinctly shown ~~in the photograph reproduced in Fig. 1~~, and certain colossal figures carved in the massive cliffs of the Hill of Texcocingo have suffered a like fate.

The illustrations which I am able to present in this place are not necessarily representative of the best work of the native sculptors, being selected from such as,

through the accident of burial during the period of conquest, escaped mutilation or complete destruction. Amo g the minor works in stone there are many implements and utensils which have received aesthetic attention. A good example of this is seen in the jade ax which is carved to represent the god ? .(~~Fig. 6~~), and the puzzling stone yokes and the palmate stone of the eastern margin of the plateau are remarked for beauty of design and perfection of finish. A little vase, supposed to be a pulque cup, the exact provenence of which is unknown, ~~appears in figure .~~ This is an exquisite piece of work and the features of the personage carved on the front are as perfect a representation of the typical Indian physiognomy as could be produced by the most skilled workman. The side view is shown in figure 4, and a drawing of the head reproduced in figure 5 makes apparent the perfection of design and execution.

Masks were carved in large numbers by the ancient Mexicans. They are often concave at the back and comparatively thin, doubtless intended to be employed ceremonially either over the faces of participants in ceremonies or applied to effigies of the gods, as were the Mosaic masks described in a previous number of this series of papers. The smaller specimens may have served for miniature effigies but were doubtless more commonly worn as amulets serving thus as personal ornaments. The mask illustrated in Fig. 9, possibly representing the wind god, is about life size and is by no means equal to many others in beauty of material, form, decorative elaboration, and surface finish. There are perforations for attachment or suspension and for the fixing of pendant ornaments, and the deeply hollowed out back is embellished with full length figure of the god sculptured in low relief (Fig. 7). The figures of men and animals

were variously treated but usually in a very formal manner savoring of the archaic. The features are often skillfully carved but the arms and legs are more elaborations of a squarish block or at best but imperfectly developed. The colossal figure of the serpent headed deity, Coatlicue, dug up in one of the streets of Mexico City where it had been buried at the time of the conquest is a good example of the Aztec work and its embodiment of the serpent element and the symbols of death and human sacrifice give it a forbidding and sinister appearance in keeping with Aztec character and thought. Equally forbidding in its aspect and typical of the Aztec mythology is the remarkable little green-

7 stone statue shown in figure 7. The elaboration of the face and body clearly indicate symbolism of death. The carving is most skillful and bold and the finish like that of a gem. It is preserved in the Ethnological Museum

in Stuttgart and appears to have no other record than than it is of Mexican origin.

In passing from the Valley of Mexico, the principal seat of the Nahua peoples, to Yucatan, the home of the northern Mayas, a decided change in the character although perhaps not in the grade of the sculptural work is observed. The best known example, the so-called Chacmool statue, unearthed by Le Plongeon in Chichen Itza is illustrated in figure 3. In many cases well carved figures in the round were introduced into niches in the facades of the great stone buildings of Uxmal and Chichen and Uxmal and dwarfish Atlantean figures of formal type were much employed as supports to the stone altars in the former city.

In the more southern Mayan areas, in Guatemala and Honduras, many works are found which rise to a higher artistic level than those of the north, although there

THE PROBLEM OF THE MAYA CIVILIZATION

THE MAYAN MYSTERY.

When President ROOSEVELT was examining with his ever-eager mind the collection of Mayan cultural remains at the San Diego Exposition, back in the time of the World War, and was wondering why the people who had reached such a height of civilization as the fragments of their art indicated should have perished, he was heard to remark in a hissing sentence then current: "I think they were too proud to fight."

Now a geologist, Dr. C. WYTHE COOKE of the United States Geological Survey, recently sent by the Carnegie Institution of Washington to study the area where the Maya civilization once flourished and then "mysteriously succumbed," offers another explanation. It is that during the time of the Mayan Empire, "quite possibly," all-year lakes upon which the Mayans depended for water and transportation dried up and became swampy plains. The hills, having been shorn of their forests in order to grow corn for the large population, had already lost their soil by erosion.

Then came disease on the heels of this calamitous change, due in part, at least, to man's failure to work with nature for the preservation of the balance that made the region primevally a garden. At any rate, this is the scientific surmise. Here is the rest of the tragic story:

> So long as the lakes were deep near shore, fishes would have eaten up the mosquitos, but when the water became swamps and marshes the mosquitos must have risen up to plague the people, and malaria may have hastened the decline of the fine cities of the Old Mayan Empire.

It was not that they were too proud to fight, but that they did not know who their real enemies were and how to fight them. If the Temple of the Warriors had included among its bas-relief heroes scientists with test tubes and retorts, as well as soldiers with offensive stone axes and defensive bats, and priests with their baskets of offerings, the Mayas might still be adding chapters to those which tell their ancient glory in the sumptuous two-volume work with 170 plates just published by the Carnegie Institution at Washington.

There may be much truth in what Mr. Cook says, but I beg to add the suggestion that considering the vast religious establishments erected by the Maya with their terrible burden of quarrying, transporting, carving and building imposed by a powerful and cruel priesthood upon a primitive people occupying an environment of limited resources, no other result than exhaustion and final ruin could possibly follow.

A priesthood, possibly of foreign origin, imposed, developed and destroyed the Maya civilization.

W. H. Holmes

September 10th 1931

Stela A, one of the several great monolithic sculptures still standing in the great plaza of Quirigua
Height 14 feet

There are fortunes for the man who will invent a plant-killer for the tropics. Perhaps a foot deep of rock salt over our twenty acres would discourage further vegetation, even from the hundreds of miles of leviathan roots that choke the area. Fire would not. The only other remedy is the omniverous machete—that wonder-working cutlass which has tamed the tropics, that article of dress without which no modest peasant would appear in public, that combination ax, sword, hoe, spade, rake, pick, can-opener, plow, pocket-knife—and term of endearment when the "white-eye" distilled from cane sugar moveth itself aright on pay-day. It is a more universal tool than can be found on any American farm—and should be adopted by us.

The humus of the terrible forest has blanketed the bones of Quirigua only a few feet—the rest has run away in the rains to give occupation to dredgers at Puerto Barrios. We find the pavements of stone only two or three feet below the surface in the great courts. From the pyramids it has of course largely washed down; and with the dry-out, now that they are denuded, the rains will scour them clean. We are already uncovering some of their lower walls, and attacking the rooted mass, upon their summits. The most remarkable finds, thus far, are at the so-called "Palace" or monastery of the high priests. This noble structure, about one hundred and forty by forty feet on its far larger terraced mound, had not only Yucatec-arched cells, and bands of chronological glyphs, but a feature till now unique—a frieze of gargoyled heads, about twice life-size, of the culture-stage of early Greece, and with thirty-inch stems so that the whole head projected well beyond the flush of the wall. Three of these have already been dug up from the débris from which the octopus roots of prying trees had spilled them. Next year we should recover the whole wonderful series; and the missing date-glyphs (three of the five have been found already); so that all can be restored in drawings and in stone.*

* These were found during the following season.

Southwest Museum
Los Angeles

THE MAYA MONOLITH: THE SUN-PRIEST

He is the law-giver, the mighty,
His eyes have the calm of deep seas.
And from his parted lips flows music.
It is neither loud, nor soft,
But it satisfies, it is merciful.
He is the pillar of the kingdom.
So great in stature that the Gods
Claim his head for a resting place.
His hands wield a scepter of gold,
Of sunlight, not metal.

BEATRICE IRWIN

A MAYAN MONOLITH, DOUBTLESS REPRESENTING AN IMPORTANT DEITY.

It is 12 feet in height and the background is part of the ruins of a pyramid. These sculptured monuments standing in the plazas in the Mayan cities were an important feature of the religious ceremonies of this super-religious people.

A great Monument.

Bajo relieve en piedra, hallado en el Estado de Chiapas, en los Lacandones, y representa el sacrificio religioso de pasar una cuerda con espinas por una perforacion hecha en la lengua.—Este dibujo se tomó de un grabado que se encuentra en la obra titulada *Le Tour du Monde*: año de 1884.

The absolute rule of the priest-craft.

An Alabaster Vase

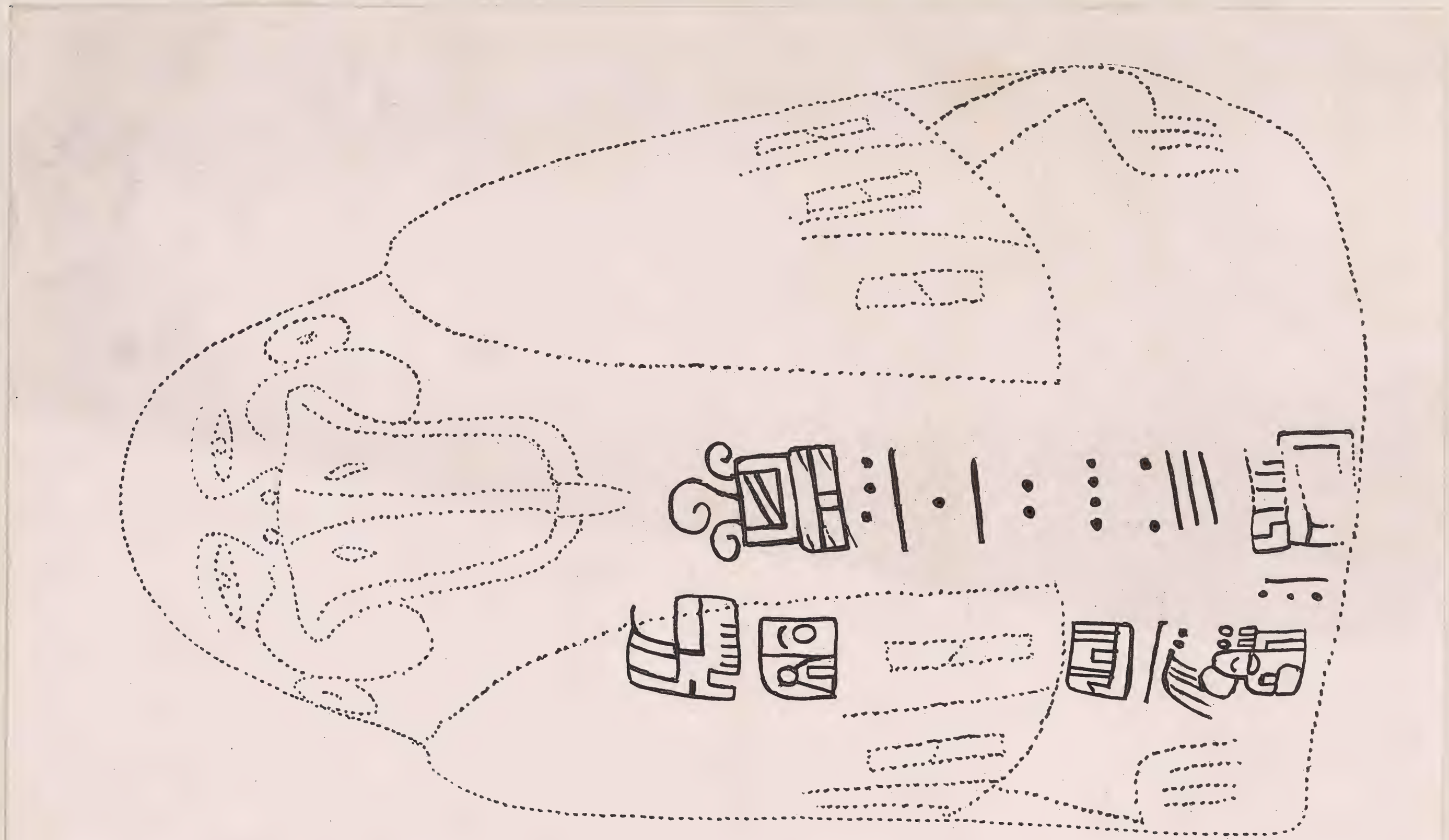
THE TUXTLA STATUETTE

THE OLDEST DATED ANTIQUITY IN THE NEW WORLD

B. C. 96

This important specimen was found near San Andres Tuxtla in the State of Vera Cruz, Mexico, in 1902, and was acquired by the United States National Museum the following year. It is made of jadeite and represents the figure of a bird-like deity with a human head. The front and sides are inscribed with Mayan hieroglyphics which place it as a product of some branch of the great Maya race of Central America and southern Mexico that developed the most brilliant aboriginal civilization of ancient America. Its paramount importance lies in the fact that the date expressed by the column of bars and dots down the front: 8.6.2.4.17 8 Caban 0 Kankin in Maya chronology, corresponds to B. C. 96, which makes it the earliest dated archaeological specimen in the New World.

It was brought from Mexico by a Mexican and offered for sale to the New York Museum, but as the price seemed possibly too high it was declined, and when brought to Washington later was gladly secured by the Curator of Anthropology for the archeological collection. It is probably the most valuable speciman in our collection.



Jade Figurine from Mexico
In United States National Museum

to the original statue than anything that we have had before.

What, then, can we learn from the Castel Porziano copy and Professor Rizzo's reconstruction in regard to Myron himself? Not much, perhaps, that is absolutely new. The copies that were known before, combined with the statements of ancient writers, were enough to show the striking characteristics of the sculptor: his fondness for difficult and contorted poses, unusual in works of the fifth century, combined with a certain Greek restraint, so that he chose for his figures a pose that was not absolutely momentary, but could be held,—a moment of "arrested motion"; greater realism than was displayed by his predecessors and most of his contemporaries, so that his Ladas and the famous cow could be praised for their realistic qualities, and, at the same time, something of the idealism of the fifth century, so that the Discobolus is not a portrait of an individual, but a generalized conception of the ideal athlete; and a certain lingering archaism in the treatment of the hair, such as is noted in the ancient criticism recorded by Pliny. All these qualities of Myron's style the new statue merely serves to confirm; and since it is headless, it gives us no new ideas as to the type of head preferred by Myron, the point on which so many conjectural identifications of Myronian works turn.

In certain minor details, however, the new statue does modify our conception of Myron. It suggests, for one thing, somewhat greater moderation in this sculptor of contorted figures than it has been customary to attribute to him. The pose of the figure from Castel Porziano is firmer, the "ponderation" of the statue better than that of the other copies. The right arm is not raised quite so high,—the bit that is preserved is sufficient to show this,—with the result that greater reserve force is suggested, and Myron (in this case, at least) seems nearer to the Greek ideal of "Moderation in all things," less far removed in spirit from Phidias and Polyclitus than we have been accustomed to think him. Again, the rendering of the muscles, as has been noted before, shows little of that hardness which appears in other copies of the Discobolus and which has often been explained as due to lingering archaism. The forms in the Castel Porziano statue show more analogy to those of the Doryphorus and the Diadumenus than to those of the Tyrannicides. There is the same tendency to model in large masses with well-defined bounding lines that appears in the athletic figures of Polyclitus and other masters of the Great Age. With this copy before us, we see more easily why Myron, in spite of his earlier date, is constantly associated in ancient tradition with the greatest of the Greek sculptors, Phidias, Polyclitus, Scopas, Praxiteles, and Lysippus.

Harvard University

Sides and Back of the Figurine, showing Wealth of Glyphic Inscriptions

see the specimen, national Museum

THE OLDEST DATED AMERICAN MONUMENT

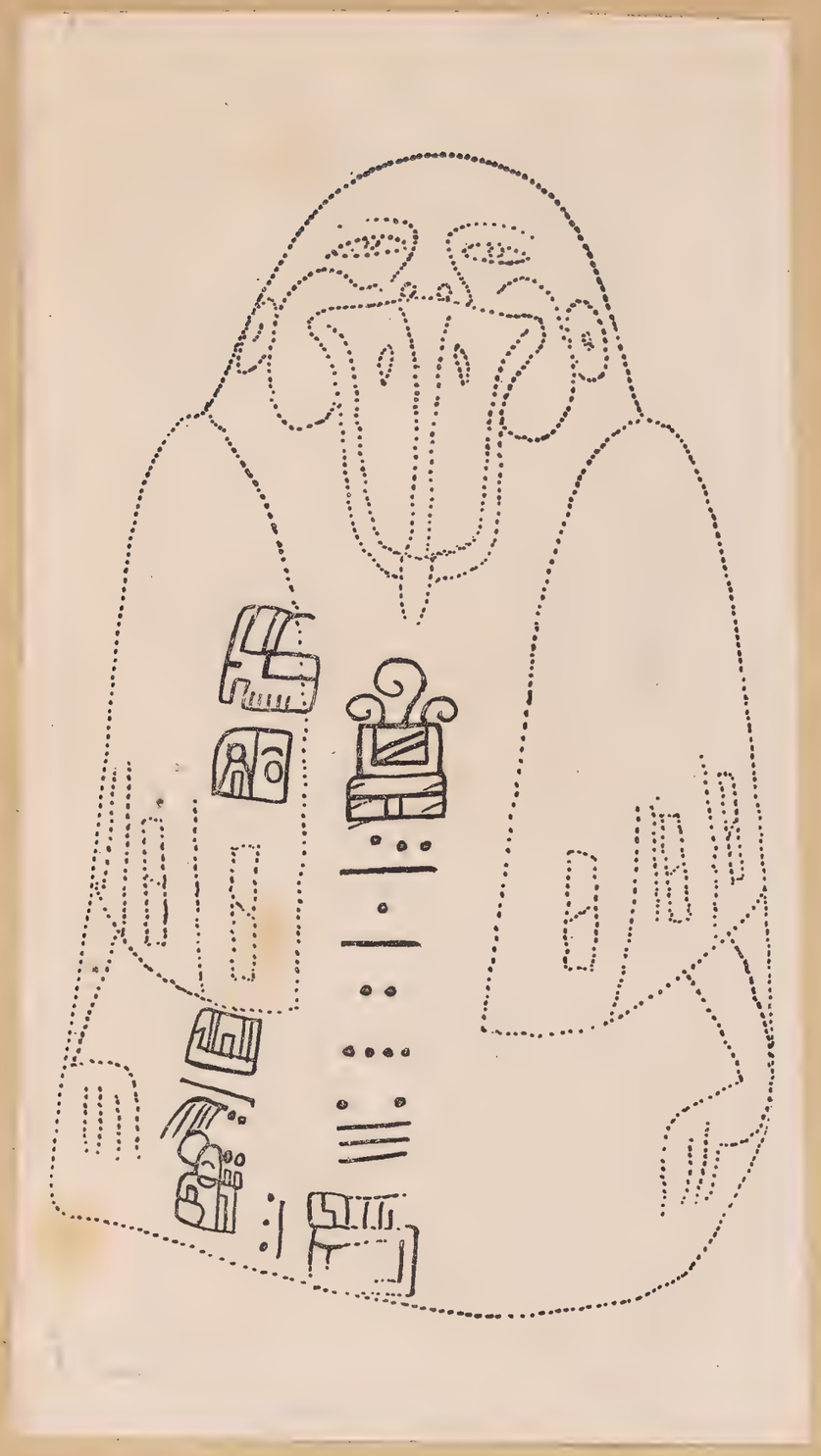
A NEPHRITE FIGURINE FROM MEXICO

W. H. Holmes

THIS little bird-man with its pointed crown, stubby conical body, and wealth of glyphic inscriptions, has come to be regarded as the most interesting and precious of the minor relics of antiquity that America has produced. It was found in 1903 by a peon who was plowing in the district of San Andrés, Tuxtla, about 140 miles southeast of Vera Cruz, Mexico, and after passing through a number of hands, finally found a resting place in the United States National Museum. It is composed of very hard grayish-green stone, a variety of nephrite or jade, and is about 6½ inches in height and 3¾ inches in diameter at the base. Its general outline gives the impression of a priest in long cape or cassock. The upper part presents a human head with somewhat pointed bald crown and well-defined though not elaborately carved features. The lower part of the face is covered with a mask-like device, in appearance resembling the bill of a duck or other water-bird, carved in relief and extending down over the chest like a beard. The cheeks are overlaid by a conventional design in relief which lends a genial expression to the face, and discoidal ornaments are affixed to the ears. The idea of a cassock or other loose garment is destroyed when the figure is examined closely, for the bird-form is further emphasized by wings covering the sides of the figure, the lower margins of which are carved to represent feathers. Beneath the wings the bird's legs and feet appear engraved in outline.

The deities of the ancients took their forms very largely from the beast world, but often were regarded as having human attributes and were so represented in the multitude of sculptures and paintings left by the ancient people. This little idol represents a somewhat novel conception, a bird-man deity. It was more usual to associate the bird with the serpent in deity making—one the fitting representative of the powers and potencies of the sky, the other of the world beneath—the human element being sometimes expressed by the visage of the man peering from the mouth of the serpent.

The figurine in its conception and execution is well within the range of ancient Mexican and Mayan achievement, and presents no features markedly suggestive of foreign influence. The general shape was evidently laboriously worked out from a block of irregular conical outline by pecking and rubbing with stone implements. The unevenness of the surface, especially on the front and back, was never fully removed, although the stone is well polished. The under-surface is unfinished and shows the striæ which usually result from dividing stone with primitive saws. Examination of the broad, shallow outlines of the features of the man-bird shows that the polishing was done after these were worked out; all the glyphs, however, were engraved after the shaping of the various features of the image was completed and the surface polished. The engraving of the glyphs on the hard polished surface was by no means an easy task, and some of the narrow lines



a. Jade statuette from Vera Cruz, Mexico, with glyphic date corresponding to 100 B.C. as read by Dr. Morley.

Oldest American Dated Antiquity Made in 100 B. C.

Birdman relic - Mexico

1916

Purchased for the Museum by W. H. Holmes

A SMALL stone statuette found near Vera Cruz, Mex., which has been in the possession of the United States National Museum since 1903, has recently been identified as the oldest known dated antiquity in America. Its ancient Mayan glyphic inscriptions show that it was made 100 years before Christ, which is the oldest date authenticated in the new world.

This unique image was originally found in 1902 by a peon while plowing in the district of San Andres Tuxtla, near the gulf of Mexico, about 100 miles southeast of Vera Cruz, Mex., and came to the museum through the courtesy of R. E. Ulbricht, the next year. It is composed of very hard grayish-green stone, a variety of nephrite or jade, carved into a rounded conical form, about 6½ inches in height and 3¾ inches in diameter at the base. Its general outlines give the impression of an old Mexican idol or priest in a cape or cassock. The upper part represents a human head with a somewhat pointed bald crown, with well-defined though primitively cut features. The lower part of the face is covered with a mask, in appearance resembling the bill of a duck, carved in relief and extending down over the chest like a beard. The cheeks and ears are outlined by a conventional scroll design, which lends a genial expression to the face. The idea of a cassock or other loose garment is destroyed when the figure is examined closely, for the bird-like form is further emphasized by the wings covering the sides of the figure, the lower margins of which are carved to represent feathers. Beneath the wings the outlines of a bird's feet and legs are engraved.

What the Glyphs Reveal

On the front, back and sides of this little figure are the peculiar characters, called glyphs, in which the early inhabitants of southern Mexico and the northern part of Central America, known as the Maya, wrote and recorded their early history and achievements. So far only calendric parts of the ancient inscriptions of the Maya have been deciphered, the chronological skeleton of Maya history, as it were, stripped of the events themselves. Thirty years ago Maya inscriptions were a sealed book, and yet today we read of the rise and fall of the several cities in relation to one another, and follow the course of the native development even though we cannot fill in the background. The nature of the several inscription is, of course, similar to more recent writings of this prehistoric race, yet the forms of the particular characters are so elemental that only the date signs or numbers are translatable.

In determining the date on this figure, however, a most valuable clue or index to further research and investigation is gained by students of American archeology, the locality of the find gives a hint to further excavation there in the hope of locating more relics and possibly establishing the location of another settlement of some branch of the Maya race.

The figurine in its conception and execution is well within the range of ancient Mexican or Mayan achievement, and presents no features suggestive of foreign origin or influence.

The general shape was evidently laboriously worked out from a block of irregular conical outline, by pecking with stone hammers, the unevenness of the surface, especially on the front and back, never having been fully removed, although the stone is well polished. The under surface shows the characteristic markings produced by primitive methods of sawing hard stone before the discovery of metals. Broad shallow lines trace the composite features of the man and bird, and establish the fact that the polishing was done after they were cut. All the glyphs, however, were added after the shaping of the various features of the image was completed and the surface polished. The engraving of the hieroglyphics on the hard-polished surface was not easy, as is shown by the narrow and uneven scratches which never received the smoothing and finishing touches.

Dates Back to 100 B. C.

What is known as the "introducing glyph" of the initial series on the image has been shown by Sylvanus G. Morley, of the Carnegie Institution of Washington, to indicate a length of time in the Maya calendar equal to eight cycles, six katuns, two tuns, four uinals and seventeen kins, which compared to our calendar goes back to about 100 B. C., the oldest definite recorded date known to students of anthropology in connection with the new world.

The people responsible for this little image, known to anthropologists as the Mayas, are now resident principally in Yucatan, Chiapas, Tabasco, and in adjoining Central American republics, but one small group, the Huasteca, is found in northern Vera Cruz. It does not seem unlikely that the entire coast line of the state was at one time the habitat of these ancient peoples who have left us a key to their history, religion, language and customs in the stone manikin described above.

See Mexico folder

THE TUXTLA STATUETTE

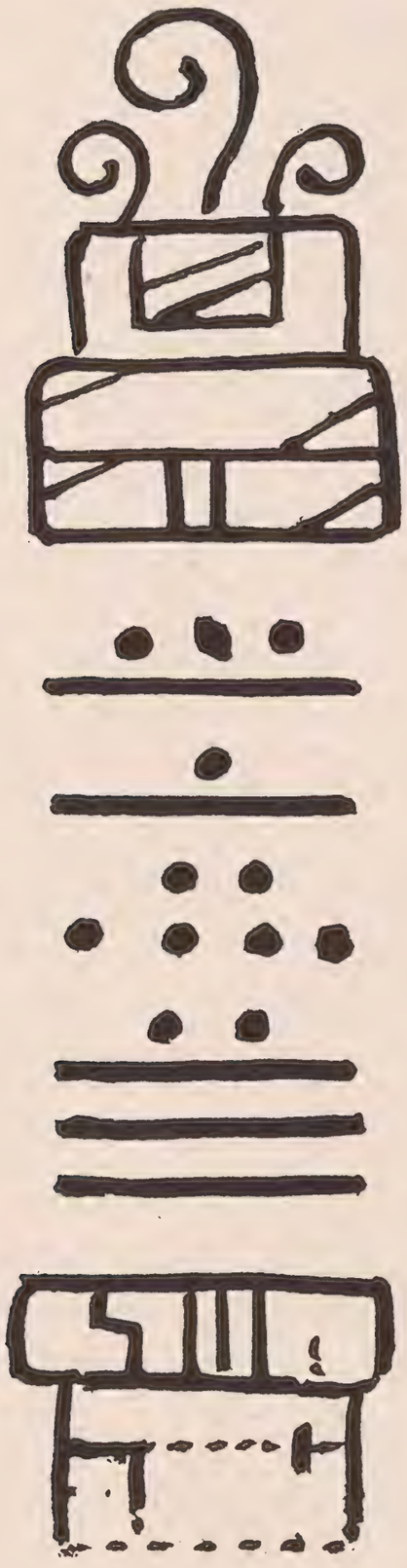
THE OLDEST DATED ANTIQUITY IN THE NEW WORLD

B. C. 96

This important specimen was found near San Andres Tuxtla in the State of Vera Cruz, Mexico, in 1902, and was acquired by the United States National Museum the following year. It is made of jadeite and represents the figure of a bird-like deity with a human head. The front and sides are inscribed with Mayan hieroglyphics which place it as a product of some branch of the great Maya race of Central America and southern Mexico that developed the most brilliant aboriginal civilization of ancient America. Its paramount importance lies in the fact that the date expressed by the column of bars and dots down the front: 8.6.2.4.17 8 Caban 0 Kankin in Maya chronology, corresponds to B. C. 96, which makes it the earliest dated archaeological specimen in the New World.

THE TUXTLA STATUETTE WAS BROUGHT TO NEW YORK AND LATER TO WASHINGTON BY A MEXICAN WHO OFFERED IT FOR SALE. IT WAS FINALLY SECURED FOR THE NATIONAL MUSEUM BY W. H. HOLMES, HEAD CURATOR OF ANTHROPOLOGY.

This remarkable sculpture is without doubt the work of an advanced people once occupying the eastern shores of Mexico. It is therefore surmised, since its glyphs belong to the Mayan system rather than to the Aztec, that in earlier centuries the Mayan dominion extended over the territory now the State of Vera Cruz, and, further, that possibly the Huastecan tribe now occupying parts of the region is a remnant of the Maya race.



THE MAYAN DATE CORRESPONDING TO 100 B. C. ON THE FRONT OF THE TUXTLA FIGURINE

The date, as it appears on the front of the statuette, is shown in the accompanying figure. According to Morley this consists of an introductory glyph at the top, and a series of counters which, interpreted according to the system that has been perfected by long and painstaking researches by a score of students, give the date already mentioned. The several lines of glyphs on the sides and back of the image can not as yet be read, but they doubtless relate to events of the period recorded on the front of the figure.

A chief point of interest in this work is that it establishes the important fact that twenty centuries ago the native peoples of the Vera Cruz region had risen to the stage of culture advancement which is characterized by the invention of writing, the particular step that best marks the transition from barbarism to civilization—a very high stage indeed for a people still within the confines of the stone age. It may be added that the state of culture indicated by this specimen could not have been reached in a brief period, assuming a reasonable rate of development from the most primitive known stage of advancement in America. The time intervening between the stage of simple hunter-fisher culture to the invention of an alphabet may better be reckoned in thousands than in hundreds of years. The exact chronological value of the image can never be known, but the record it bears gives countenance to the view that America has been occupied by the race far back toward the retreat of the glacial ice from the northern border of the United States five thousand or more years ago.

U. S. National Museum

VOLUME XV

SECTION II CHIPPED STONE

SECTION II — Masterpieces of the Fracture Processes in Sculpture.

For an elaborate study of the chipping arts and of the quarries and shops where this work was begun, and often in great part finished, see Volume VI of this series. Other studies have been made and published during the past forty years but the work of research is today far from complete.

Thompson

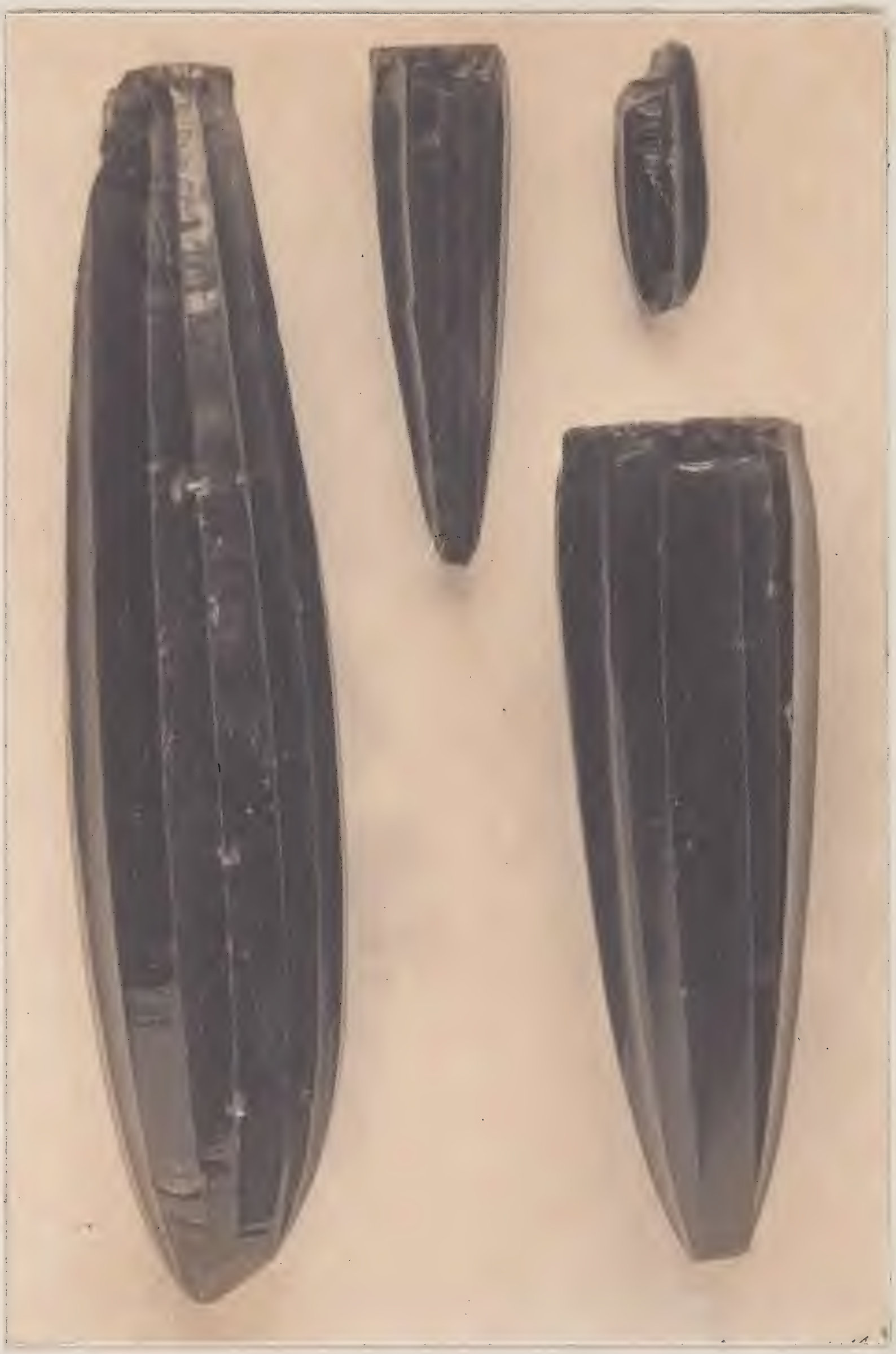
Holmes

Obsidian Mine Refuse, Mexico.

Great deposit of chipping refuse

Obsidian California

Mexico



Obsidian Cores from which
long slender blades were
struck off -

Chipped stone workshops, studied by Holmes, Illinois

CACHE OF CHERT BLADES FOUND ON THE
JAMES TYRRELL FARM, TAZEWELL COUNTY,
ILLINOIS.

This remarkable deposit of blades was found in a gravel pit. Thirty-eight were found the first day "all in one bunch", and two more were found the next day while examining the dirt that had fallen into the pit. The owner of the farm states that several were broken by the shovel and thrown away. Since it appears that only thirty-three have been preserved, it is assumed that seven of the forty originally recorded were thus lost. Of the blades preserved twenty are notched and thirteen are unnotched. The average length of the notched blades is about five inches, and of the unnotched blades four and one-half inches. The width of the notched blades is 3 inches and of the unnotched blades two and one-half inches. The greatest thickness does not exceed one-fourth of an inch.

The general color of the chert is creamy-white with

blotchings of brownish and pinkish grays.

The execution is masterly. The perfection of the chipping, the symmetry of outline, and the exceeding thinness are especially remarkable. They hold a place very near the climax of the chipping art in America.

The origin of the material has not been determined, but deposits of similar white and whitish chert have been found in a number of places in the valley of the Illinois River.

Thirty-one of these blades came into the possession of Mr. Frank W. Aldrich, of Bloomington, Illinois, who kindly forwarded them to the National Museum in order that replicas in plaster might be made. Casts of five were made and colored closely after the originals. Mr. Aldrich ~~originally~~ forwarded casts one side only of four of these specimens, two notched and two plain.

The thirty one originals were returned to Mr. Aldrich June 1917, the Museum having ~~complete~~ replicas of five,

three notched and two unnotched and the four incomplete casts sent, which are recorded ~~to the credit~~ as a gift from of Mr. Aldrich.

Examples of marvelous chipping skill

Marvels of Skill and Taste

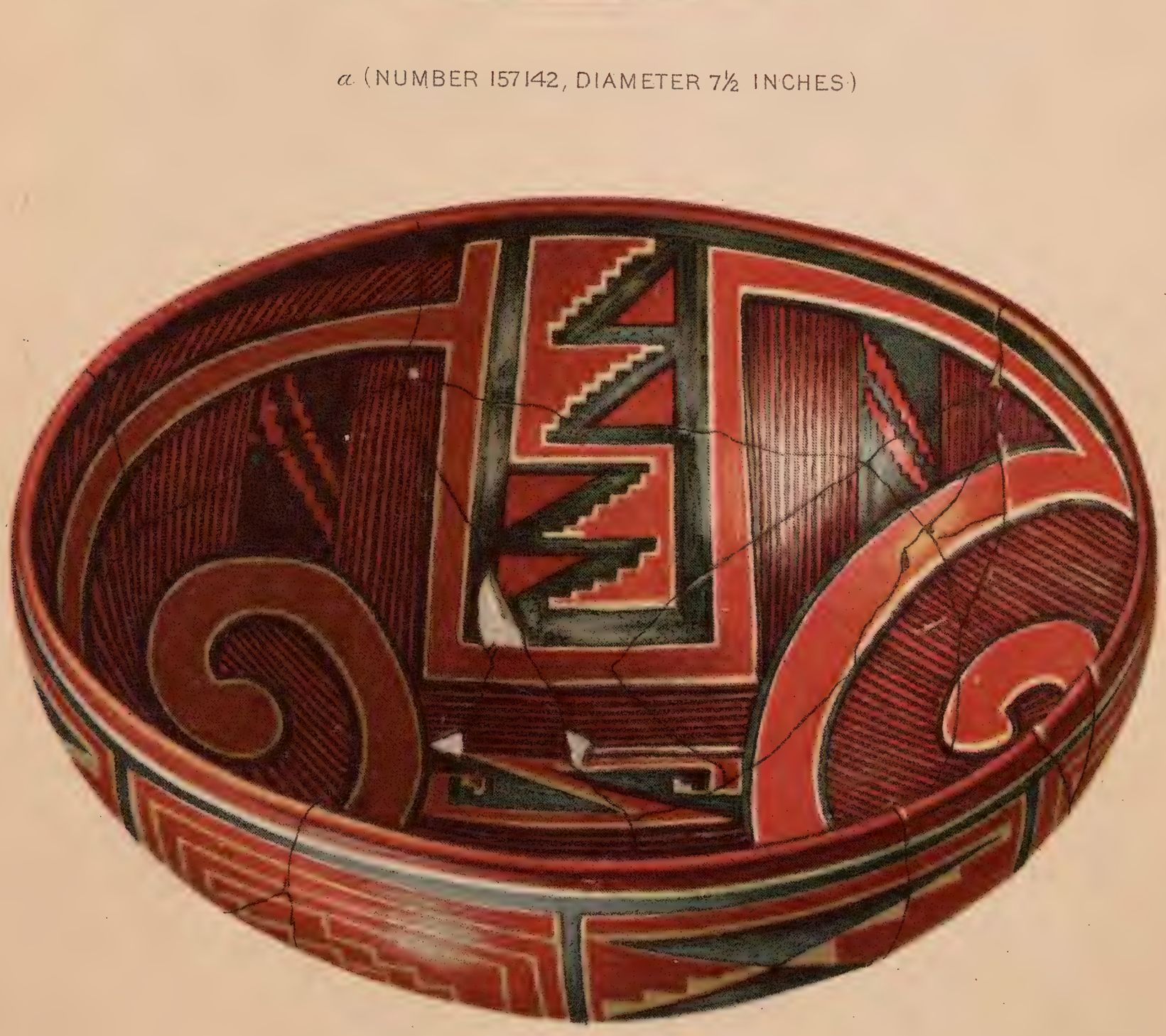
VOLUME XV

SECTION III, POTTERY

Superb vase from a southern mound

JAR FROM CLIFF-HOUSE, NEW MEXICO

a (NUMBER 157142, DIAMETER 7½ INCHES)



b (NUMBER 157276, DIAMETER 13¼ INCHES)

VASE AND FOOD BOWL FROM CHEVLON, ARIZONA

Drawing by W. H. Howard

HEYE COLLECTION - BLACKISTON, COLL.

POTTERY OF THE CASAS GRANDES, CHIHUAHUA, MEXICO.

This group of earthenware possesses very decided individuality and displays taste in form and ornament. It has, however, certain affinities some of which are close, with the pottery of the Pueblo region of Arizona and New Mexico. It also has suggestions of other Mexican groups to the south, but very slight analogies appear with the pottery of the Mississippi Valley and the Gulf coast.

There are apparently at least four separate types of ware. The first may be called the polychrome group; the second the incised group; the third the black group; and the fourth the black and white group, represented by a single bottle of northern cliff-house type.

The polychrome ware is simple in form but very diversified and interesting in its decoration, the colors employed

being red and black with intermediate tints of brown.

The color of the base is usually a very light yellowish gray, a few examples being finished in red. The designs are mainly geometric embodying the fret and scroll in various forms suggesting corresponding features in the art of the northern Pueblos and in the art of middle Mexico. Bird and vegetable forms appear in a number of cases and the drawing corresponds in technical character to that of the Homolobi ware of Arizona. The prevailing form of vessel is a pot with rounded body and base tapering upward gently to the rim, the opening being large, in nearly all cases equal in diameter to about one-half the diameter of the vessel. The rims are plain. Occasionally an animal figure is attached as an ear or handle on opposite sides. Also the bird is used in the same manner

one example representing apparently the parrot. In a few cases the upper part of the vessel is elaborated on one side which is raised above the rim into a human face which is painted in the usual colors. In other cases the entire human figure is represented, the head rising above the rim on one side, and the legs extended. In all cases these are female figures and are painted in various designs indicating the hair, the eyes, the face markings, vertical lines on the chin, necklaces, wrist-bands, etc. In one case the figure is represented as holding a bowl on the top of the head supported by the right hand. In one case a human face is modeled against the side of the body of the vase. The bowl shape appears in this group.

The incised pottery is mainly at least in red--a dull red-and consists of plain roundish bottles with wide mouths.

The incised figures in cases extend as a spiral, beginning at the middle of the rounded base and carried upward to the neck; in others there is merely a band of ornament around the neck and shoulder, herring-bone style or merely parallel lines. In once case the surface shows the coil employed in building after the manner of the northern Pueblos but the coil has been smoothed down and indentations have been carried over the surface. Another small rude vessel has the entire surface covered with spike-like knobs. The largest vessel in the entire collection does not exceed a foot in height and a foot in diameter. The vessels appear to be round in every case excepting that of the black and white bottle of cliff-house type and the human figures. There are numerous vessels of small size extending down to cups $1\frac{1}{2}$ inches in diameter and $\frac{1}{2}$ inch in height. Some of

these smaller vessels are rectangular in outline. Some are plain, others decorated in colors. Black ware presents shapes corresponding somewhat closely with those of the polychrome ware with certain differences. In one case two small vases of usual form are connected Siamese-twin fashion at the peripheries, one inch apart, and a notched handle connects the rims at the top. In other cases a small loop occurs at opposite sides of the rim. A characteristic feature of this group is the bowl-shaped vessels with small constricted rims. One vessel with a double shoulder appears.

In the Chihuahua collection are numerous small mortars of the short mortar type with corresponding pestles made of a variety of volcanic rock. One large-type metate,open

at one end carved of vesicular lave is a remarkable specimen. It is about 18 inches long, 16 inches wide, and 8 or 9 inches deep. There are also numerous flattish subangular mullers mostly of lava belonging to the metates.

Art & Archeology, Dec. 1916.

see article in Vol 10
with original illustrations.
About half way in volume.

A QUIRIGUA MYSTERY.

By

W. H. Holmes.

On the opposite page 62 is shown in two views a polychrome earthen vessel of unique design found in a small, dark chamber in a ruined building of the ancient city of Quirigua, Guatemala, during the excavation of the site in 1912. It is the property of the St. Louis Society of the Archaeological Institute of America, the exploration having been conducted by the School of American Archaeology of the Institute under the joint auspices of the St. Louis Society and the American Fruit Company, the ancient Quirigua being situated on the property of that company.

The vessel, which is preserved in the St. Louis Art Museum is seven inches in height and has, encircling the rim, a constricted band apparently intended for

the accommodation of a cover. The fluted body swells below into a bulbous base which is slightly concave beneath. The paste is moderately soft, light gray in color, and the surface is finished with a slip or wash of light salmon hue carefully rubbed down with a polishing implement.

The unique feature of the specimen is the human face set as a mask against the front of the vessel. The features are boldly modeled and are decidedly un-Indian in type, reminding one forcibly of physiognomies appearing frequently among Mediterranean people and met with also among the peoples and in the art of the Orient. The forehead is prominent and rounded, and the brows strongly pressed forward. The eyes are large and round, and the pupils are painted white. The nose is bulbous, and the cheeks are prominent in front

with pronounced creases separating them from the mouth. The mouth is curved decidedly downward at the corners, and the lips are parted, showing the full row of upper teeth colored white. The chin is rounded, and has appended below a beard which is ribbed vertically and finished in dark-red pigment. The ears are embellished with forward projecting disks also finished in white. A double forehead band, colored white, marks the upper margin of the mask. The upper filet of this band has a rounded knob in the center, with obscure shoulders at the right and left. The knob, which probably represents a serpent's head, has spiral lines in red on the upper and under surfaces, and red patches on the shoulders possibly intended for eyes. To the right and left, on either side, are three crosses in red which may represent body-markings of the reptile. The lower filament, which is quite flat, retains traces of dark

pigment indicating that originally it also had decorative markings. It is possible that other embellishments in color have been lost.

This unique face affords much food for thought and much room for speculation. The strange fact is observed that not a single feature of the highly individualized physiognomy is characteristically aboriginal and that all the features are more or less decidedly suggestive of the faces of the Orient. It is difficult to understand how the aboriginal American potter should have conceived and carried out such a work, omitting from it every trace and suggestion of the, to him, known racial characters and conceiving, and realizing in clay, a practically true type of an Antipodean race.

The mystery surrounding the history of this

strange relic of a vanished race and a dead culture

is deeper than the gloom of the ~~obscure~~ little stone

chamber in which it has lain secreted for a thousand

years.— W. H. Holmes

A Quirigua Mystery. An effigy vase of oriental aspect from Guatemala, now in the Museum of the Missouri Historical Society.

Courtesy of the
St. Louis Society of the
Archaeological Institute

Smiling rattle

a Maya Vase

A Maya vase

Design - upper surface of a
Chiriqui Vase

The pottery of Chiriqui, Colombia, is in a class by itself. This elaborate design charmingly adjusted to the interior surface of an urn shaped cup is indeed a marvelous example of the taste of a people still within the stage of esthetic evolution in which primitive symbolism had complete control.

Design from a Chiriqui vase

See "Art & Archeology" Jan, 1921

AN EARTHEN VESSEL FROM SALVADOR

The remarkable earthenware vessel presented in the accompanying figure was brought as a gift to the National Museum by Senor Emilio Mosonyi, who obtained it from a native in Salvador, Central America. It is exceptionally attractive in appearance, taking as a work of art a high place among ceramic masterpieces of the region represented. Notwithstanding this and the additional fact that it presents every appearance of antiquity, its authenticity is questioned by Prof. Marshall H. Saville, who has an intimate acquaintance with the fictile work of the ancient Mayas as well as with their imitators of the present period. He avers that certain potters known to him have acquired marvelous skill in imitationing the ancient wares and that they are today disposing of the product as occasion arises to unsuspecting collectors of antiquities. He fears that this specimen may be the work of these imposters.

Although I am not ready to accept Professor Saville's

view as final, I do not seek to have the matter decided in haste, and as a measure of safety refrain from discussing the specimen as the work of the Ancient Mayas, as was my first intention. It is presented here in order that it may receive such consideration as it deserves, either as a noteworthy example of ancient skill, or as a product of the present day intended to deceive. If the work of the masters of olden times is now being imitated with such consummage skill, it is most important that the fact should be known to collectors of this class of Central American handiwork.

No modern potter could have done it

If indeed this specimen is a fraud, it takes a high place as such. We observe that it is not only so skillfully done as to rival the ancient work in design and execution, but that it must be regarded as a marvelous example of cunning deception, for it has been broken into a number of pieces and put together again and with such consummate skill that the fractures are not readily detected.

Professor Saville was inclined to consider the tubular body of the vessel genuine, suggesting that the elaborate band of decoration had possibly been added by the modern potter, but there appear certain objections to this view- 1. That the re-firing of the body in order to bake the applied clay would most certainly crumble and destroy the ancient body; 2. That the breakage into fragments described above is of a character such as would result from a fall or other form of violence rather than from heat, and that the fractures involve the body and the ornament alike; 3. That under the microscope the junction of the relief work with the tubular body is perfect where not affected by the breakage, and that under the microscope the surface, texture, color and appearance of wear and age are identical in all parts.

Wether genuine or not, the presentation of the specimen here will suggest the need of great caution on the part of students and collectors, and there is little doubt

that a careful comparison of this piece with such others as are known to be of modern make, examples of which may have been collected by Professor Saville, will eventually settle the question of its status. A brief description of the specimen may be of interest.

It is tubular in shape, twelve inches in height, brownish in color and uniformly polished. It is embellished with a broad encircling band of ornament of unusual complexity, which comprises four rows of human heads modeled in bold relief and three lines of hieroglyphs. The human heads are forty-eight in number and are inclosed in sunken panels formed by interlooping and interwoven filaments, the arrangement as a whole giving a somewhat textile suggestion to the embellished band. The heads are closely alike as if formed by pressing the plastic clay into a common mold, the eyes and mouths having been afterward emphasized with a pointed modeling tool. The heads are crowned in each case with a short scroll-

like fillet of clay coiled upward in front which appears to connect with the plume fillets of the framework. The floors of the panels against which the heads are placed have been blackened and checkered with incised lines.

The three lines of glyphs are skillfully introduced, being inclosed in shallow panels formed by the interlooped strands. The panel surfaces have been blackened and the glyphs incised on these with a sharp point. The lines of glyphs connect around the body of the vase and are inclosed in the border filament loopings at the upper and lower margins, the third, in the middle, being inclosed in squarish fillet frames, and these again by two strands which rise above and part around the glyph frames joining again below. It is not assumed that these glyphs, even if of the ancient time are necessarily significant for it is stated by Dr. Spinden that

> "The hieroglyphs which so frequently occur on vessels

from Salvador are probably no more than meaningless deco-
rations but the same may be said of many of those on vases
from the heart of the Maya area. Learning was doubtless
in the hands of the priests and upper classes and potters
had to content themselves with outward forms. Sometimes a
single face glyph, with or without dot numerals, is repeat-
ed over and over again round the rim of a bowl. At best
such a glyph could only stand for a name or a day."

Spinden, Herbert J. American Anthropologist, (N.S.) Vol. 17
No. 3. P. 446.

A Salvador Masterpiece

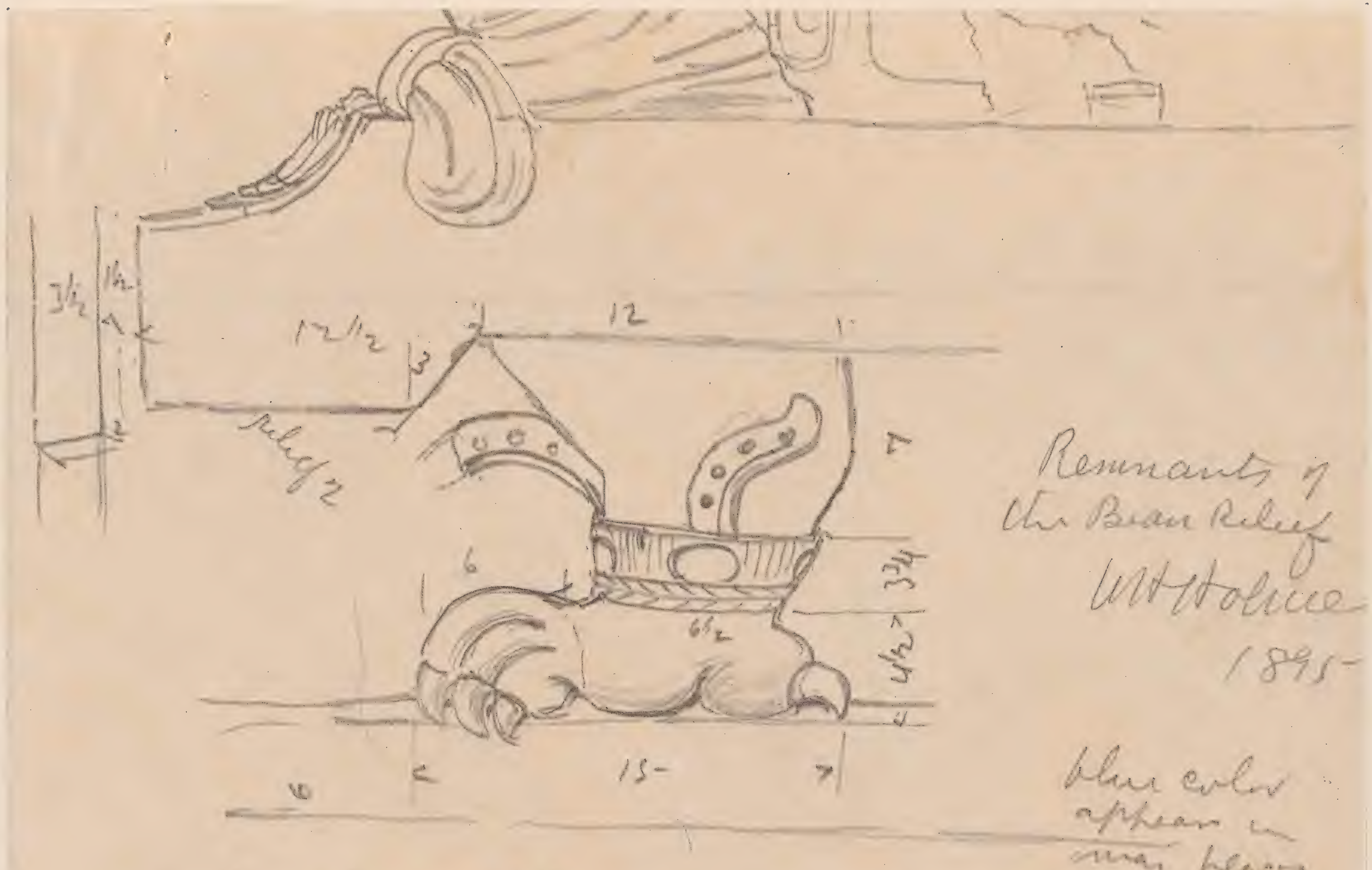
VOLUME XV

SECTION IV, STUCCO

PLATE I. ALTAR-PIECE, TEMPLE OF THE BEAU RELIEF, A MASTERPIECE OF STUCCO WORK, PALENQUE, CHIAPAS. (WALDECK.) SEE PAGE 5.

See Stucco Section further on, IV

All that is left today of a great work
Drawing made on the ship, 1895
WHH



Remnants of the Bear Relief
WH Holmes
1895-

blue color appears in many places

Drapery like a mantle
Foot rounded bent
by feathers
body of chase feet needle of animal well rounded

Curled paws turned & modeled like a decorative work
Claw ½ inch out side of frame

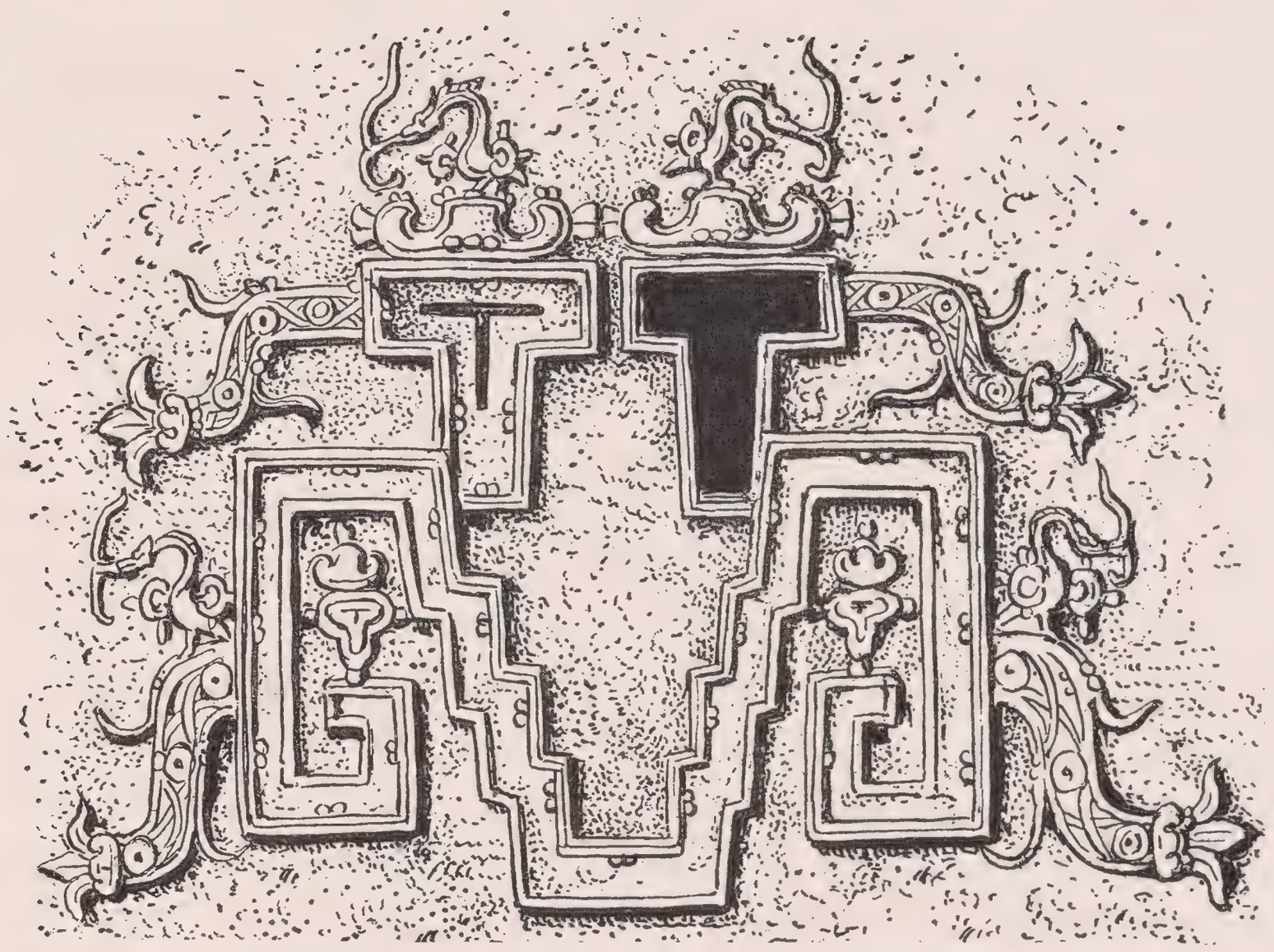


FIG. 1. SYMBOLIC MURAL ORNAMENT IN RELIEF AND PAINTED IN BRILLIANT COLORS. "PALACE," PALENQUE, STATE OF CHIAPAS, MEXICO.

MASTERPIECES OF ABORIGINAL AMERICAN ART

I. STUCCO-WORK

BY W. H. HOLMES

ARCHAEOLOGICAL research is the great retriever of human history. The story of the far past—the ages that have slipped unrecorded from the knowledge of men—can be known only through a study of the crumbling remains of such works as time has spared. In the New World, called America, written history can tell us of the peoples and culture for the insignificant period of four hundred and twelve years only. Beyond this our resources are limited to a meager body of untrustworthy tradition and to the scattered traces of the things that men have made. By a study of the latter, the history of the Red Race and its cultural achievements may be carried backward through the centuries and the geologic ages to the frontier of the great unknown.

It is a striking fact that while a study of the material culture of the American aborigines reveals the long-forgotten past of that people, it illumines with particular clearness the course of events prevailing among all nations during the ages anterior to the dawn of written history. It is also true that the cultural achievements of the tribes are more diversified and mature than the world has realized until now. The virile genius of the people is shown in many fields—in architecture, sculpture, painting, metallurgy, the textile arts, and especially in the plastic arts, and it is to a single phase of the

latter that I desire to direct attention in this place.

That a people not yet advanced beyond the humble plane of the stone age should have excelled in such a branch of decorative handicraft as stucco is indeed remarkable, for stucco does not come into being until the building arts are advanced to the stage where mural treatment of the highest order is required, yet we find the peoples of Middle America lavishing embellishments of the most elaborate kind on the walls of their temples, exterior and interior, on pillars and columns, on roof surfaces and on lofty roof crests erected for the sole purpose of plastic and sculptural display, and even on the faces of the pyramids on which the temples were built. A few of the more important examples may be briefly described.

IZAMAL: Among the cities of northern Yucatan numerous crumbling structures furnish hints of the grandeur of the pre-Columbian days. In the present humble village of Izamal, just west of the public square and occupying the back lots and gardens of half a dozen dwellings, are the remains of a pyramid which at one time, doubtless, supported on its summit an imposing temple, as did many other pyramids in the Mayan province. Portions of the débris that formerly veiled the walls had been removed at the time of my visit, along the southern end and for a short distance along the sides. On the eastern face I found the weather-beaten and badly mutilated remains of a great stucco head modeled in the round (fig. 2). Originally it must have been a most striking work. The face, some six feet in breadth and seven feet in height, was boldly wrought and neatly finished and painted. The illustration shows it as it appeared about forty years ago; today hardly a trace remains. My sketch (fig. 3) serves to indicate the relations of the work to the pyramid and the general character of the ear-ornaments and headdress. The latter, doubtless, rose high on the wall and included the usual mask-embellished front and elaborate symbolic devices and feather-work, traces of which were still visible. Lizana states that one of the pyramids of Izamal was the home of Itzmat-ul, the great god and oracle of northern Yucatan, and the open mouth and the altar shelf projecting below suggest that this head may have been the mask behind which the oracle delivered his messages to the people. The head, illustrated by Stephens (fig. 4), appears to have been high up on the southern face of the pyramid and must now be entirely obliterated.

The western face of the pyramid has been partially freed of débris, thus exposing the massive hewn stone walls, part of a stairway, and a very interesting example of stucco design—a colossal human figure in strong relief, possibly a companion piece to that spoken of by Charnay as a crouching tiger. The prostrate figure occupies a panel about four feet high and eight feet long, and faces the south. It rests apparently on knees and elbows, and is surrounded by ornamental plumes and symbolic devices. Later photographs of these figures show merely battered traces of what, in the palmy days of the Maya city, must have been imposing and attractive works.

PALENQUE: The builders of Palenque, a ruined city in the state of Chiapas, Mexico, so far as the monuments show, were the greatest masters of stucco in America. Stucco was their chief reliance in all matters of finish and decoration,

FIG. 2. COLOSSAL STUCCO HEAD OR MASK EMBELLISHING THE FRONT OF A PYRAMID (TEMPLE BASE), IZAMAL, YUCATAN.

Figures 2 3 and 4 show different presentations of the same complete
drawing figure 2 to show the complete design

interior and exterior. In the great building known as the "Palace" and its associated temples, there are something like eighty heavy exterior columns, rectangular in section, varying from three to six feet or more in width, from two to five feet in thickness, and from six to twelve feet in height, which separate the entrances and support the entablatures of the façades. Half as many more served the same purpose in the various courts and interior corridors. All were faced with glyphic inscriptions and masterly groups in stucco executed in low relief (fig. 5). An example is shown in figures 6 and 7.

The roof spaces, as well as the walls of the buildings, were treated as panels and filled with compositions, often in bold relief and of remarkable freedom of handling. They embodied human figures, grotesque masks, and mythic monsters skilfully grouped and surrounded with florid decorations. The roof crests with which most of the buildings were crowned, erected for the single purpose of giving scope to the genius of the stucco worker, were even more richly embellished, and many remains of the subjects still cling to the lofty façades after the lapse of upward of four centuries. Few efforts at exterior architectural embellishment in any land have been more boldly conceived. Imagine elaborate compositions worked out in strong relief, adorning the roof crests of temples fifty to one hundred feet above any possible point of view; and beneath these broad sloping roof surfaces similarly treated, followed again below by rows of wide pier fronts faced with handsome figures and glyphic inscriptions, and below this still, set against the pyramid slope or embellishing the stairways, other equally elaborate works, the whole finished in varied and brilliant colors. The sloping roof of the building, shown in figure 8, is of special interest. The two tiers of roof panels have been embellished all the way around and furnish one of the most remarkable illustrations extant of the taste and ability of the Maya decorator. The subjects, undoubtedly mythologic and germane to the functions of the temple, were wrought out in stucco in high, round relief. On the east side, or front, was the form of a serpentine monster covering nearly the entire space, twenty-one feet long by seven feet wide, with other figures and appendages filling the interspaces. At the right is the figure of a man kneeling upon a framework, beneath which are traces of a grotesque face of large size, with bulging eyes, reminding one of the wild-eyed monsters of some of the Javanese ruins. The comb-like roof-crest, as it stands today, consists of a very narrow open-work vault built of hewn stone. The faces and ends of this strange crest were entirely covered with bold mythologic tableaus in stucco, thus adding to the significance and beauty of the building.

As to the manner of attaching the figures and ornaments to the masonry, and building out the relief in plaster, I made particular observations. Small stones were set into the wall surface, projecting sufficiently for the attachment and support of the applied work, much dependence being placed on the strength and adhering properties of the plaster. To illustrate the construction, I reproduce, in figure 9, a sketch of a partially demolished human figure of colossal size which occupies the middle portion of the crest near the top of the western side. The head, which is nearly gone, was built up of a number of rough stones

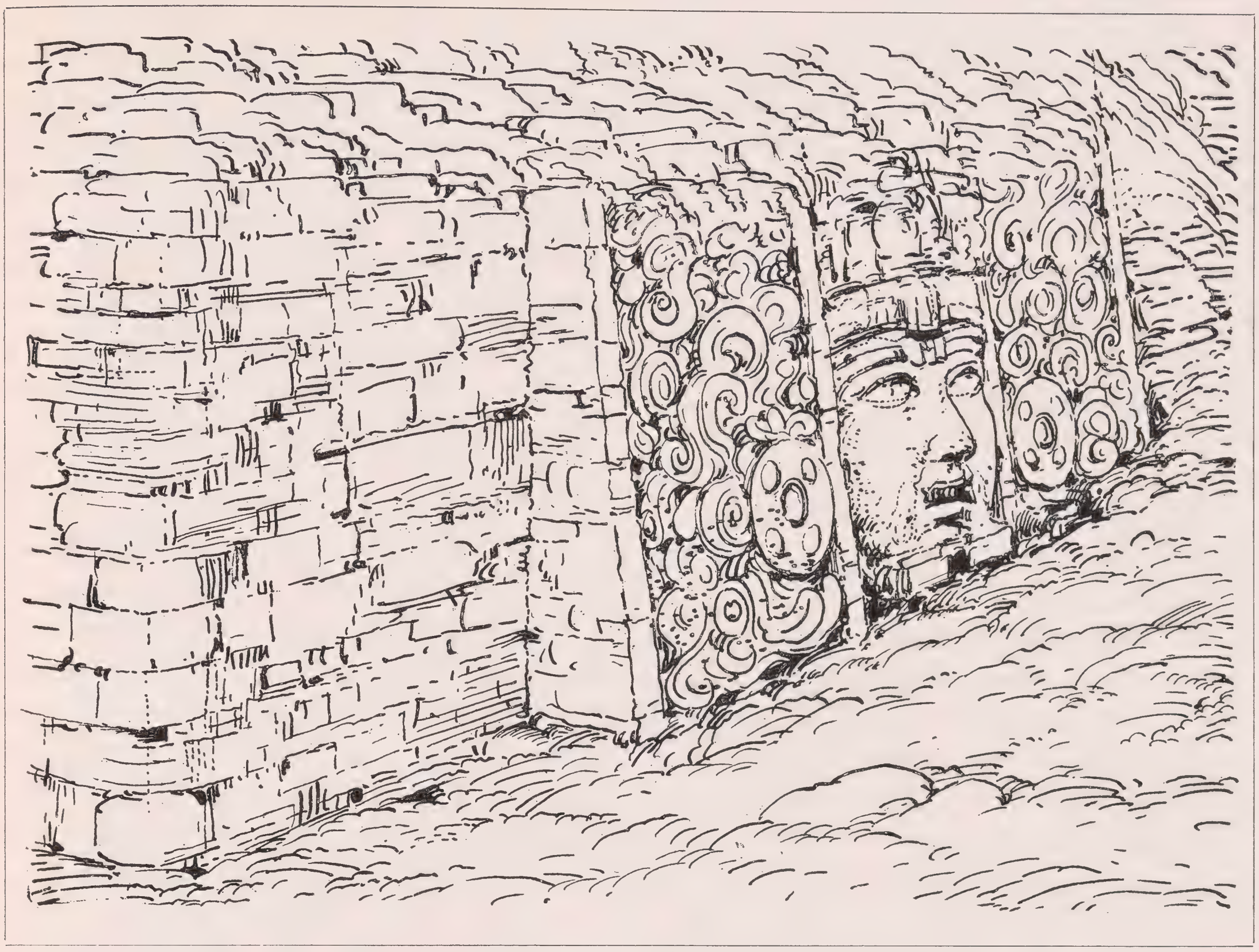


FIG. 3. SKETCH SHOWING RELATION OF STUCCO HEAD OR MASK TO PYRAMID FRONT. IZAMAL, YUCATAN.

to approximate the shape; the features were then modeled over this. The neck and body were attached to the upright partition behind, and the arms were supported by horizontal slabs at points of crossing upright partitions. Plaster was used to fix the long pieces of stone to the framework and the arms were modeled on these. The strips of stone were shaped for the purpose by sawing up thin slabs of limestone. The body of the figure is partially preserved and displays portions of a tastefully modeled belt and ornaments. The figure is seated, oriental fashion, on the median course of the framework, with the hands probably originally resting on the knees.

A small ruined structure near the river bank, about one-fourth of a mile above the "Palace," is known as the "Temple of the Beau Relief." Its most interesting feature was an altar-piece in stucco in moderately bold relief. Charnay states that the figure is entirely obliterated, but I found that a small portion remains and affords the opportunity of determining the nature and style of the work. The subject, as depicted by Waldeck (Plate I), consists of a single figure, nearly life-size, seated in a graceful pose on a cushioned throne which terminates at the right and left in tiger heads, the conventional, angular seat being supported by two legs, modeled to represent

FIG. 4. COLOSSAL HEAD DESCRIBED AND FIGURED BY STEPHENS, PYRAMID FRONT IZAMAL, MEXICO.

FIG. 5. PRESENT STATE OF PRESERVATION OF STUCCO RELIEF EMBELLISHING A COLUMN OF THE "PALACE," PALENQUE, AFTER THE LAPSE OF FIVE HUNDRED YEARS.

the feet of the animal. I consider it a piece of great good fortune to have had the opportunity of examining the remnant of this remarkable masterpiece, and take especial pleasure in testifying, so far as a study of the fragment will warrant, to the accuracy of the descriptions and drawings published by Waldeck. No part of the human figure remains save perhaps a bit of the right knee, and the tiger heads are nearly all gone; but, with an engraving of Waldeck's drawing in my hand, I studied the remains of drapery and the modeling of the animal features of the chair with great minuteness, and found the drawing accurate save that the artist has not caught, or the engraver has failed to preserve, the full vigor of the work. The drapery is modeled in a masterly way, and the subtle lines of the foot and claws of the cat are forcibly suggested. I must acknowledge having harbored a feeling of skepticism, awakened years ago, as to the truthfulness of Waldeck's drawing. I believed that the graceful pose of the body and limbs of the figure, the flowing yet vigorous plumes and drapery, and the refinement of the relievo modeling, were beyond the reach of native skill. While there is certainly some loss of native character and force, there is doubtless also a little over-refinement of drawing and finish, natural enough in the work of an accomplished artist unaided by photography and possibly not deeply impressed with the importance of scientific accuracy.

As a work of art this bas-relief would not suffer by comparison with representative relief sculptures of Egypt, Babylonia, and the far East, and in balance of parts and grace of line has few rivals. The right hand of the figure is extended as if to call attention to the glyphic inscription toward which the face is turned, while the left hand is raised, the index finger pointing upward.

The imprint of portions of the figure still remains upon the wall, and the remnant as it stands affords an excellent opportunity for studying the technique of the worker in stucco. The roughly laid-up wall was covered somewhat evenly with plaster; then as the modeling advanced, where the relief was high, bits of stone were set in, making a framework for the prominent features. Where strong projecting portions were to be added shallow pits were dug in the masonry as sockets for the projecting stones. Mortar was then carried over all, rough-shaping the form; perfection of modeling was made possible by employing finer grained mixtures, and finish was given by polishing and painting.

LABNA: What the worlds of art and science have lost by the failure of the conquerors of Yucatan properly to record its native culture and art is vividly suggested by the description given by Stephens of a temple at Labna, Yucatan, the crowning feature of which must have been a masterpiece indeed of stucco art. The enthusiastic words of Stephens, after having visited and described many of the wonders of the ancient civilization of Middle America, are worthy of repetition. Referring to his engraving, he says that it "represents a pyramidal mound, holding aloft the most curious and extraordinary structure we had seen in the country. It put us on the alert the moment we saw it. We passed an entire day before it, and, in looking back upon our journey among ruined cities, no subject of greater interest presents itself to my mind. The mound is forty-five feet high. The steps had fallen; trees were growing out of the place where they stood, and we

FIG. 6. OUTLINE, SOMEWHAT RESTORED, OF STUCCO RELIEF EMBELLISHING A PIER OF THE "PALACE," PALENQUE, STATE OF CHIAPAS, MEXICO.

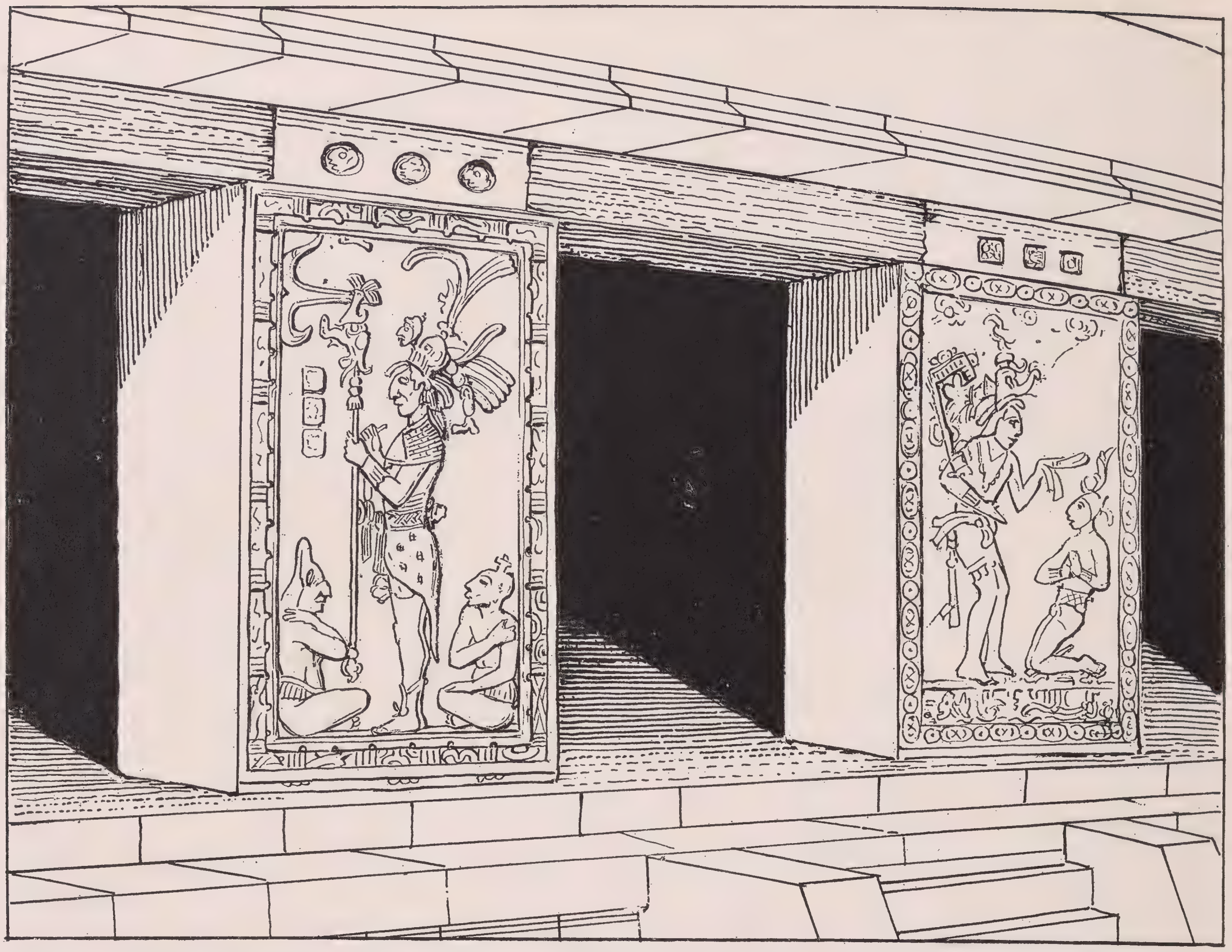


FIG. 7. SKETCH SHOWING RELATION OF THE STUCCO EMBELLISHED PIERS TO THE BUILDINGS. "PALACE," PALENQUE, STATE OF CHIAPAS, MEXICO.

reached the top by clinging to the branches; when these were cleared away, it was extremely difficult to ascend and descend. . . .

"Above the cornice of the building rises a gigantic perpendicular wall to the height of thirty feet, once ornamented from top to bottom, and from one side to the other, with colossal figures and other designs in stucco, now broken and in fragments, but still presenting a curious and extraordinary appearance, such as the art of no other people ever produced. Along the top, standing out on the wall, was a row of death's heads; underneath were two lines of human figures in alto relievo (of which scattered arms and legs alone remain), the grouping of which, so far as it could be made out, showed considerable proficiency in that most difficult department of the art of design. Over the centre doorway, constituting the principal ornament of the wall, was a colossal figure seated, of which only a large tippet and girdle, and some other detached portions, have been preserved. Conspicuous over the head of this principal figure is a large ball, with a human figure standing up beside it, touching it with his hands, and another below it with one knee on the ground, and one hand thrown up as if in the effort to support the ball, or in the apprehension of its falling upon him. In all our labours in that country we never studied so diligently to make out from the fragments

FIG. 8. SMALL TEMPLE WITH STUCCO EMBELLISHMENTS IN THE TROPICAL FOREST AT PALENQUE, STATE OF CHIAPAS, MEXICO. (MAUDSLAY.) FOREST TREES COVERED THE PYRAMID AND GREW TO LARGE SIZE FROM THE STUCCO ORNAMENTS OF THE ROOF.

MAYA GLYPHS. FIG. 9. SKETCH ILLUSTRATING THE CONSTRUCTION OF STUCCO FIGURES; TEMPLE CREST, PALENQUE. MAYA GLYPHS.

the combinations and significance of these figures and ornaments. . . . With the full blaze of a vertical sun upon it, the white stone glared with an intensity dazzling and painful to the eyes, and almost realizing the account by Bernal Diaz in the expedition to Mexico, of the arrival of the Spaniards at Cempoala: 'Our advanced guard having gone to the great square, the buildings of which had been lately whitewashed and plastered, in which art these people are very expert, one of our horsemen was so struck with the splendour of their appearance in the sun, that he came back at full speed to Cortez, to tell him that the walls of the houses were of silver.' . . . Its doom is sealed. Human power cannot save it; but in its ruins it gave a grand idea of the scenes of barbaric magnificence which this country must have presented when all her cities were entire. The figures and ornaments on this wall were painted; the remains of bright colours are still visible, defying the action of the elements. If a solitary traveler from the Old World could by some strange accident have visited this aboriginal city when it was yet perfect, his account would have seemed more fanciful than any in Eastern story, and been considered a subject for the Arabian Nights' Entertainments."

United States National Museum.

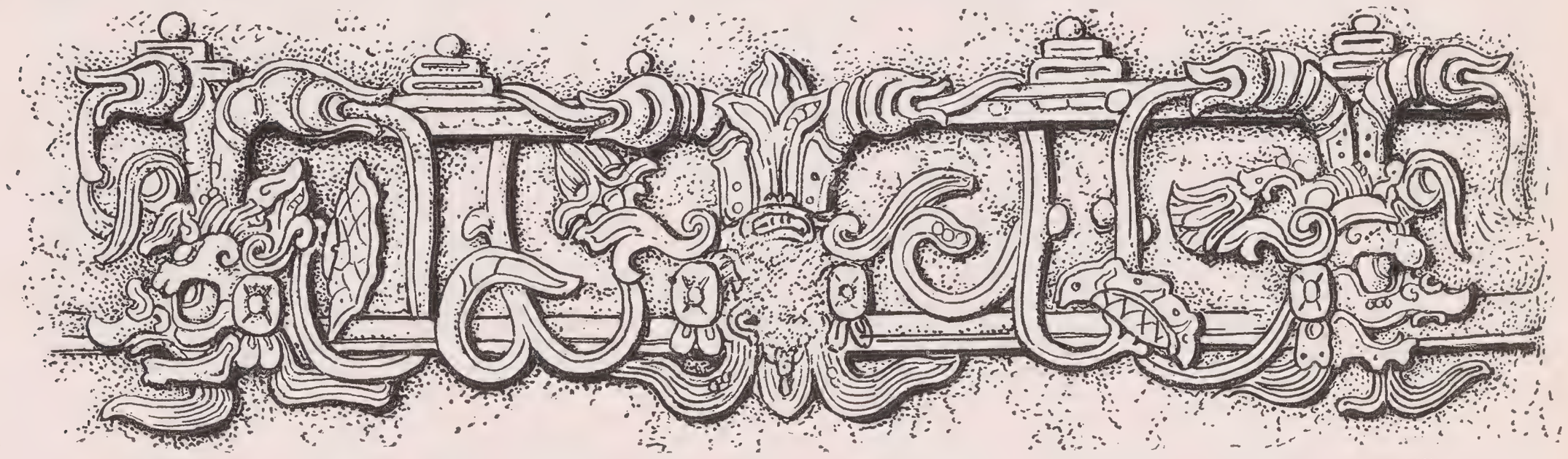


FIG. 10. STUCCO ORNAMENT EMBODYING GROTESQUE FACES AND THE LOTUS; MIDDLE FACE OBLITERATED. PIER FRONT, PALENQUE.

VOLUME XV

SECTION V, MOSAIC

AZTEC CEREMONIAL MASK

Human skull inlaid with turquoise, jet, pyrites, and shell, representing the god Tezcatlipoca. The back is cut away to permit its use over the face of the wearer. Three-fourths actual size. British Museum.

MASTERPIECES OF ABORIGINAL AMERICAN ART.

II. Mosaic Work; Minor Examples.

by

William H. Holmes.

A striking fact to which the attention of ethnologists is often called is that tribes and nations wholly strangers to one another do the same things and in the same manner and reach like results at corresponding stages of advancement, no matter what the period; yet when all the factors of culture evolution are taken into account the conclusion reached is rather that it would be more remarkable did they not do so. The human mind works everywhere in like fashion and with the same or closely corresponding environments will when the time is ripe produce closely kindred results.

The striking differences in culture observed at corresponding stages of advancement are, therefore, due largely to differences in the materials available in the arts.

The aboriginal Americans, wholly isolated from the Old World for no one knows how many ages, had reached in their highest advancement the culture stage only of the Egyptians of perhaps ten thousand years ago. Owing to an assumed later beginning and in part no doubt to the dearth of animals adapted to domestication and other shortcomings of environment they had lagged thus far behind on the rugged road to civilization. Yet in nearly every important branch of culture they were advancing along identical lines and even in many of the well specialized branches of activity were duplicating the prehistoric phases of Old World handicraft. This was illustrated in the stucco work of the Middle Americans presented in the first paper of this series and is equally true even of the more highly specialized field of mosaic work sketched briefly in the present pages. Mosaic work, called also inlaying, is

the art of incrusting the surface of art works with bits of colored stone, shell, and the like giving brilliant effects of coloring and arranged in pleasing and often symbolic designs. Ethnologists tell us that the art of color embellishment had its initial phases in lowest savagery and that the first surface designedly treated was the human skin, a brance of art as yet by no means obsolete. In the very early stages of development the motive may have been that of protective coloration as the naturalists put it, designed to render the subject less conspicuous to lurking enemies, or possibly in mere imitation of certain wild animals which were regarded with special veneration, as the seryent or he tiger. These simple applications of color may be regarded as the initial manifestations in a prolonged series of steps of aesthetic advancement which have their culmination today in the loftiest

art achievements of the race. The idea of color embellishment probably extended in time from the person to personal belongings and thence to all things made and used, manifesting itself in simple effects and in designs realistic and formal. But colors have other that aesthetic values in the minds of most primitive peoples who believe themselves supernatural powers which they seek to know and utilize. Th se powers are appealed to as necessarily occupying the four quarters of the world and the zenith and nadir, and with these directions are associated the prevalent manifestations of color as these are interpreted, as yellow to the east, red to the west, blue to the over and black to the under world. With the Americans these colors became the symbols of the gods of the regions and were thus invested with sacred attributes never lost sight of by the superstitious mind of primitive men. It is entirely natural then that

that those materials in nature which uniformly and constantly display particular colors, as the metals, stone and shell, should by transfer acquire sacred attributes and become representative of the supernatural powers. Thus turquoise would become the emblem of one class of deities when blue and another when green, or the sky or water respectively; garnet or carnelian because red would symbolize the gods of the west or of war, and obsidian and jet of those of the under world, and so on with no end of variations and combinations forming with the developed peoples of a region a complex of symbolism.

Just when and with what people the art of incrusting surfaces with designs in brilliant settings had its earliest manifestations can never be known yet there is ample evidence that it was practiced by the more advanced tribes from Alaska to Argentina; that it had been practiced for a long

period in some centers is made plain by the maturity of the craftsmanship, the embodiment of varied symbolism in the works, and the intimate manner in which these were associated with the mythologic concepts of the people and the rites and ceremonies of their worship.

An essential technical feature of the art of incrustation was the possession of some kind of gum, asphaltum, glue or other like substance with which the object to be treated could be coated and which would harden after the setting of the incrustation was completed. The infinite patience of the savage artisan was requisite in the tedious work of cutting out, polishing and fitting, by means of the rude processes of the stone age the little tablets of quartz, obsidian, pyrites, garnet, turquoise, jade, carnelian, jet and gold, and the brilliant nacre of sea shells, and certainly none were more keenly appreciative of the value and

charm of such work than were the ancient Mexicans notwithstanding the fact that the crowning creations of their cult were the bloodiest gods in the whole record of human barbarism.

Although the art of incrustation was practiced by many of the more advanced peoples of the continent works worthy of being called masterpieces were not produced outside of Mexico, Middle America, and possibly Peru, Mexico having supplied the choicest specimens. Twenty-five or more examples of the highest order of workmanship are known and nearly all of these are now preserved in European museums, their preservation being due to the fortunate circumstance that they fell into the hands of appreciative people and that for the most part in the early days of Spanish conquest.

When Cortez landed with his invading host upon the coast of Mexico he learned from the natives first encountered

of the existence of a powerful nation occupying a valley set high up in the continental plateau, whose ruler was Montezuma. He immediately dispatched envoys to announce his approach and the proud monarch of the Aztecs returned ambassadors to the Spanish camp bearing the richest gifts that the empire could afford, and it is a noteworthy fact that among these were numerous works of mosaic, the acme of American handicraft, the enumeration of which is as follows: (1) A mask, incrusted with a mosaic of turquoise, carrying upon it a snake, coiled and twisted, worked of the same stone; (2) A bishop's crozier all made of turquoise in mosaic work, and terminating in a coiled snake's head; (3) Large earrings of chalchihuitl, in serpent design; (4) A mitre of ocelot's skin, surmounted by a large chalchihuitl, and decorated with turquoise mosaic, and (5) A staff adorned with mosaic of turquoise.

It is not at all improbable that the mask first mentioned in this list is the identical specimen now preserved in the British Museum. It is a most remarkable work and is shown in figure 2. Although this object is incomplete, having lost the lower part of the face, its main features are readily traced. The foundation is of cedar wood carved behind to fit over the face of the wearer and in front to represent two plumed rattlesnakes so intertwined as to closely suggest a human face or skull. The surface is most cleverly inlaid with turquoise, the serpents' bodies being distinguished one from the other by differences in color, the one being a bright blue and the other a rich green. The wide-open eye sockets and exposed teeth combine with the serpent form to make a barbaric and most gruesome object, a worthy mask for the sanguinary gods of the Aztecs. That the mask pertains to Quetzalcoatl the feathered serpent deity is clearly indi-

cated by the rattles of the snake and the plumes which drape at the sides of the temples. The heads, originally no doubt the most interesting feature of the work, are lost, we may surmise that they met beneath the chin or projected therefrom to the right and left across the cheeks. The skill of the workman in developing in the round these serpent forms in bits of cut and polished stones and other hard materials bespeak craftsmanship of a high order. The coils of the intertwined forms of the serpents so far as they can be made out appear in Figure _____.

According to Tylor the wonderfully preserved mask shown in Figure 3 is of wood covered with minute pieces of turquoise--cut and polished, accurately fitted, many thousands in number, and set in a dark gum or cement. The eyes, however, are acute-oval patches of mother-of-pearl; and there are two small square patches of the same on the temples,

Photograph from Joyce.

FIG. 4. WOODEN MASK INLAID IN TURQUOISE WITH BRILLIANT EFFECT, AND FURNISHED WITH EYES AND TEETH OF WHITE SHELL. PROBABLY AZTEC. HEIGHT ABOUT 8 INCHES. BRITISH MUSEUM.

Photograph from Joyce.

FIG. 5. SHIELD-DISK OF WOOD INLAID IN AN ELABORATE DESIGN, WHICH IS SHOWN IN THE OPPOSITE FIGURE. THE MARGIN WAS DOUBTLESS EMBELLISHED ORIGINALLY WITH PENDENT ORNAMENTS. PROBABLY AZTEC. DIAMETER 12½ INCHES. BRITISH MUSEUM.

duced outside of Mexico, Middle America, and possibly Peru, Mexico having supplied the choicest specimens. Twenty-four examples only of the highest order of workmanship are known, and nearly all of these are now preserved in European museums, their preservation being due to the fortunate circumstance that they fell into the hands of appreciative people and that for the greater part in the early days of Spanish conquest.

When Cortés landed with his invading host upon the coast of Mexico, he learned from the natives first encountered of the existence of a powerful nation occupying a valley set high up in the continental plateau, whose ruler was Montezuma. He immediately dispatched envoys to announce his approach, and the proud monarch of the Aztecs returned ambassadors to the Spanish camp bearing the richest gifts that the empire could afford;

through which a string passed to suspend the mask; and the teeth are of hard white shell. The eyes are perforated, and so are the nostrils, and the upper and lower teeth are separated by a transverse chink; thus the wearer of the mask could see, breathe, and speak with ease. The features bear that remarkably placid and contemplative expression which distinguishes so many of the Aztec works, in common with those of the Egyptians. The face, which is well proportioned, pleasing, and of great symmetry, is studded with numerous projecting pieces or nodes of polished turquoise.

There is no doubt that these mosaic embellished masks were among the most important and precious sacred products of Aztec art. Little idea of their remarkable beauty can be conveyed by engravings in monotone and I am fortunately able to present one example in color - a human skull incrusted with startling effect, shown in the frontispiece.

The back of the skull has been cut away and the front covered with five transverse bands of settings alternately of jet and turquoise, symbolizing some particular deity. The eyeballs are formed of convex disks of polished iron pyrites set in circles of white shell. The teeth are left exposed and are partly broken out. The bones of the nose have been somewhat cut away and tablets of pink shell inserted in the openings. Two long straps were passed through the edge of the severed skull behind the temples for purposes of attachment but these are not shown in the engraving. This mask was probably intended to be fitted over the face of an important idol or the priestly representative of some deity on great ceremonial occasions, or it may have been attached as a symbol to the girdle of an officiating priest as frequently exemplified in sculptures, stucco work and paintings.

The mosaic embellished stone knife illustrated in Figure _____ is a superb piece of craftsmanship. The blade is of chipped honey-colored agate and the handle is of wood carved to represent a crouching human figure. The figure and the blade-socket are inlaid with finely cut and fitted turquoise, malachite and shell, the latter of several brilliant colors. It is masked with the skin of an eagle with outspread wings. As described by Read, the face appears through the widely opened mouth of the bird and bears the same grim character as the larger masks. Pendant from the septum of the nose is an ornament of malachite covering the middle part of the mouth. The beak of the eagle retains some pieces of its original covering of purple shell, varied with malachite and turquoise. Upon the back of the figure is an apron-like garment formed of stripes of malachite and white shell with three circles, each formed of two semi-

circles of pink and white shell. Upon hhd chest is a rectangular design formed of small slabs of white and purple shell and malachite.

The amount of work lavished upon this rare weapon points with practical certainty to its association with the masks in the rites and ceremonies of the Astecs, the most startling feature of which was sacrifice of multitudes of human beings. The number of individuals immolated during the four days ceremony at the dedication of one of the great Aztec temples, as given in a native picture manuscript, was 20,000; but death by sacrifice was regarded as a certain dedication to the gods and was considered by the victims the surest method of gaining entrance into the paradise of the sun. The keen relish with which the officiating priest performed his gruesome work is suggested by the sketch (Fig. _____.) copied from an Aztec pictographic manuscript. According to Payne,

the sacrifice of these great numbers of victims was not merely in the nature of a religious ceremony but served to satisfy the demand for a meat diet by a people whose resources in the nature of wild game had been greatly reduced. However this may be, the feast which implies the consumption of choice bits of 20,000 human bodies, while illustrating the fiendish side of the requirements of human beliefs, is hardly more diabolical than the sacrifice of hundreds of thousands of the flower of the land whose bodies are left to rot on the field of battle in the drama of christian kings now enacting in the center of modern European civilization.

A gorget of remarkable grace of form and perfection of finish is shown in Figure 1. It represents a two-headed serpent the body of which is inlaid with turquoise and other brilliant settings of stone, shell and pyrites. The colors and ornamental figures are lost in the illustration. The

conventional heads have fangs made of white shell and gums of pink shell, while the eyes, now open, were doubtless originally furnished with disks of polished pyrite; across each nose is a raised ornamental band of turquoise and red shell, and the nostrils are indicated in the latter material. A pendant ornament hung originally from the lower jaw of each head, which is carefully pierced for the passage of a small cord. Both heads are carefully finished with mosaic on both sides, though the rest of the back is of wood stained red. On the upper edges of the two loops formed by the body are two holes for suspension.

Mask of cedar wood, formed of two rattlesnakes entwined to represent a human face (Fig. 3), the whole of the front covered with mosaic of turquoise, bright blue and dull green, so that the two snakes are distinct in colour. The bodies of the snakes form the nose and mouth, and curve in circles round the eyes, and the two tails project towards each temple from the centre of the forehead, so that the rattles are upon the temples. Each snake has three of these appendages, modelled in the same gum which forms the bed of the mosaic. So fragile a substance as this gum would, however, scarcely be allowed to form the actual surface, and it seems probable that it originally was coated with gold, like the cup on the back of the cat-like animal (No. 8). Each snake has attached to its tail a pendant of three feathers, and beneath these on the cheeks of the mask has been perhaps

a continuation of these pendants, as well as the heads of the snakes, but unfortunately these portions have been broken away. The mouth of the mask is slightly open, and has had seven teeth of white shell in the upper jaw, four of which still remain, and there is a slit over each eye, and a hole on each temple for a cord to suspend the mask when worn. The inside is coloured a deep red. The eye-sockets have never had anything set in them to represent the eyes. The wood of this mask has the appearance of much greater age than in any of the other specimens. From the Demidoff Collection; bought in Paris, 1870, Height, 6.9 inches; width, 6.6 inches.

Figure 5 illustrates a work of distinct type from the preceing. It is a shield-disk of wood, 12-1/4 inches in diameter, which is inlaid in a masterly manner with minute tablets of turquoise, pyrites and shell. Many of the settings have fallen out, but enough remain to make the design intelligible. In the center, as clearly indicated in Figure 6, is a calendar disk inlaid with turquoise and pink shell, about which meanders the form of a highly conventionalized plumed serpent, the head appearing on the left above and the tail which ends in three feathers on the right below. At the top there rises a tree-like form the branches of which, parting to the right and left, support a pear-shaped enclosure into which is crowded a much distorted human figure. At the side of the central group are two human figures with up-raised hands and all facing inward. Two of the figures appear to be smoking pipes and sending puffs of smoke upward. It is highly probable that the margin of the shield was originally embellished with feathers and other showy pendants. It is quite possible that this is one of the numerous propitiatory offerings

sent by Montezuma to Cortez on the occasion of his landing in Mexico.

Another similar shield-disk is preserved in the Royal Museum of Vienna. This is a very superior work and deserves to be classed as a masterpiece. The intricate design in settings of turquoise and shell has been executed with unusual skill and taste, but is now difficult to make out in full detail on account of loss of a large part of the incrustation.

The most noteworthy example of mosaic work thus far reported from South America is shown in Figure 8. It does not compare favorably in elaboration and color effect with the best examples of Aztec work, described in the preceding pages. Limited numbers of brilliant settings of turquoise and pyrites have been combined with engraved designs of very considerable interest in embellishing the handle of a spatulate implement of bone, possibly a dagger. A drawing showing the design fully extended is included in Figure 8.

The view has been expressed by more than one student of the material culture of

America that these works in mosaic represent the highest point reached by the aborigines in the arts of taste. Howsoever this may be they offer a most striking illustration of the fact that the greatest esthetic achievements of the tribes and nations, whether savage or civilized, warlike or peaceful, humane or inhuman, are due primarily to the inspiration and requirements of religion. The religious motive was dominant in the mind of the lowly savage long ago when he thought to give a suggestion of reality to his rudely carved idol, fetish, or shamanistic mask by inserting brilliant bits of stone or shell in the eye sockets, an initial step in the art of inlay, and it was not less dominant and all-impelling when the powerful priesthood of the Aztec race, drunk with their fearsome power over human life, designed and executed these mosaic masks and other symbolic appurtenances of their bloody rites.

It is a noteworthy fact that the works in stucco of the Maya peoples of southeast Mexico, described in the first paper of this series, and which have a strong claims to the highest place in our aboriginal art, are also

Although the primary use of this disc may not be that of a calendar, yet the resemblance between it and the calendar stone in Mexico city is so intimate that it may safely be assumed to have some reference to the seasons of the year. Mrs. Nuttall's arguments in favour of these discs being the central ornaments of shields, would not be affected by such an interpretation. There is no doubt that the whole design is symbolic in the highest degree, but the proper interpretation is not yet forthcoming.

Aztec. Shattering blade, war knife
Tzaladuhi. Surgeon's knife. - Tylor

Tylor. Anahuac
Anahuac p 101
" p 338

archeologia — Read — 391-2

12½"

Tail free

Fig

Copy the figure from Read

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It may readily be believed that the remarkable knife shown in Fig. was associated with the masks as a the active agent in the singular ceremonies of human sacrifice. It is a superb piece of work and is twelve inches in length. The blade is chipped and honey-colored agate, and the handle is of wood carved and representing a crouching human figure. The figure and the blade socket are inlaid with finely carved and fitted turquoise and malachite and shell of varied colors. It wears the eagle mask with outspread wings. As described by Read, the face appears through the widely opened mouth of the bird, and bears the same grim character as the larger masks; pendant from the septum of his nose is a nose-ornament of malachite entirely covering the middle part of his mouth. The beak of the eagle has still some pieces of its original covering of purp,e shell, varied with malachite and turquoise

Upon the man's back is an apron-like garment formed of stripes of malachite and white shell with three circles, each formed of two semicircles of pink and white shell; he wears anklets and bracelets, the latter apparently of feathers represented by pink shell; he has a belt round his waist and wears short drawers covering his thighs; upon his chest is a rectangular design formed of small slabs of white and purple shell and malachite.

The amount of work lavished upon this weapon points with practical certainty to its use in connection with the ancient Mexicans in the most important of the ceremonies of the Aztec sacrifice of the human

The number of individuals immolated during the four days' ceremony at the dedication of one of the great Aztec temples, as given in a native picture manuscript, was 20,000; but death by sacrifice was regarded as a certain

dedication to the gods and was considered by the victims the normal method of insuring entrance into the paradise of the sun. The keen relish with which the officiating priest performed his work is suggested by the sketch extracted from an Aztec manuscript, reproduced in the accompanying figure _____. According to Payne, the sacrificing of these great numbers of victims was not merely in the nature of a religious ceremony but to satisfy the demand for a meat diet by a people whose resources in the nature of wild game had been greatly reduced. However this may be, a feast, which implies the consumption of choice bits of 20,000 well conditioned human bodies, while it illustrates the fiendish side of the requirements of human beliefs and resultant customs, is hardly more diabolical than the sacrifice of hundreds of thousands of the flower of the land whose bodies are left to

rot on the field of battle in the drama of christian kings now enacting in the center of modern European civilization. The vigor and even zest with which the officiating priest used the knife on his victim was strongly suggested in the drawing (fig. _____.) copied from an ancient Aztec manuscript (glyphic) book.

Read. Onjunkpa
p 391 - 2

A breast ornament of remarkable grace of form and beauty of finish is shown in Figure 1, according to Read. It is 17-1/8 inches in length and represents a looped serpent body with two heads. The body is inlaid with minute tablets of turquoise in colors and designs which do not appear in the illustration, and the conventional heads have fangs made of white shell and the gums of pink shell, while the eyes now open, were doubtless originally furnished with disks of polished golden pyrites; across each nose is a raised ornamental band of turquoise and red shell, and the nostrils are indicated in the latter material. A pendant ornament has originally hung from the lower jaw of each head, which is carefully pierced for the passage of a small cord. The heads are both carefully finished with mosaic on both sides, though the rest of the back is of wood stained red. On the upper edges of the two loops formed by the body are two holes for suspension.

The comparatively primitive tribes of Northern America have left works in mosaic which well deserve the attention of students of aboriginal culture. Examples obtained from ancient burial places in Arizona make it clear that the art was practised with skill and taste by the early Pueblo tribes. The most noteworthy example now preserved in the National Museum is a petunculus shell derived probably from the Pacific coast, the convex surface of which is incrusted with turquoise and red jasper embedded in a layer of pine gum or asphaltum, much skill being shown in manipulating the settings to suggest the form of a frog or some like batrachian. The style of the work and the manner in which the turquoise and jasper are employed strongly suggest Mexican influence, lending color to the otherwise pretty well-supported theory that the Mexicans obtained their supply of turquoise from the mines at Los Cerillos, New Mexico.

Limited traces of the incrusting and shell have been found in California, and the tribes of the Northwest coast show remarkable skill and taste in the employment of settings of the brilliant haliotis shell in ornamental ceremonial objects carved in bone and ivory.

A variety of inlay entirely distinct from the mosaic work was practised by the potters of ancient Mexico. The surface of the vessel to be embellished was carved in elaborate intaglio design compleve fashion and in the lines brilliant colored clays or pigments were laid and polished down with the general surface of the vessel giving effects of rare richness and beauty.

VOLUME XV

SECTION VI, ARCHITECTURE

Type construction with roof comb, Palenque

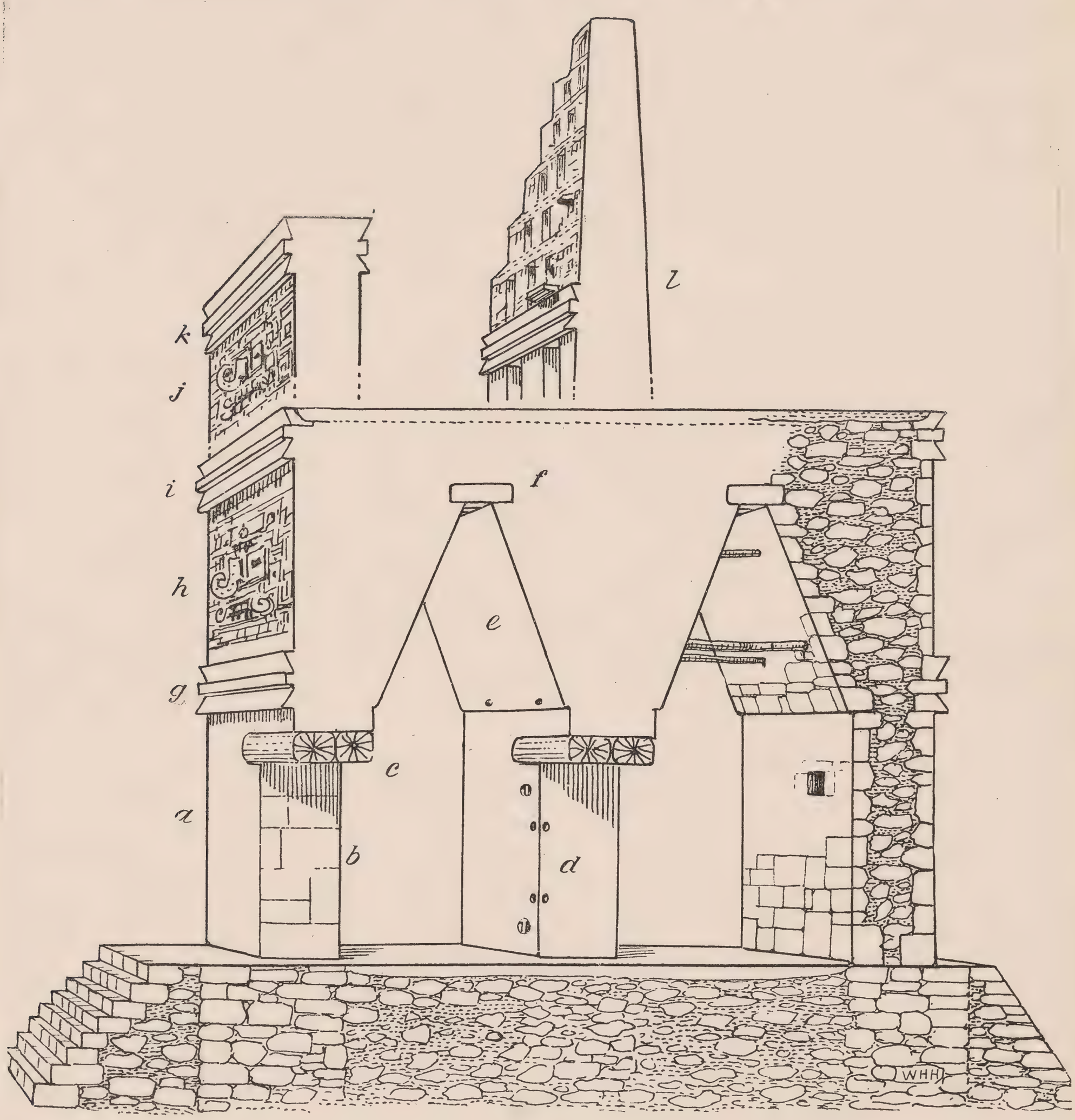

FIG. 1. TRANSVERSE SECTION OF AN ORDINARY YUCATEC BUILDING.

The upper part of the pyramid is shown with the stairway at the left.

a. Lower wall-zone pierced by a ~~single~~ doorway.
b. Doorway showing squared and dressed stones of jamb.
c. Wooden lintels cut midway in length.
d. Doorway connecting front with back chamber and showing position of cord holders.
e. Inner face of arch dressed with the slope.
f. Ceiling, or cap-stones of arch.
g. Lower line of mouldings.
h. Decorated entablature zone.
i. Upper mouldings and coping.
j.k. False front with decorations, (occasionally added).
l. Roof-crest with decorations, (occasionally added).

plain

See the bound Volume of my field measurements & Excavation studies in the library of the National Gallery &c.

WHH

A N C I E N T M E X I C A N A R C H I T E C T U R E

T H E " P A L A C E "

MODEL OF THE PRINCIPAL BUILDINGS IN THE PREHISTORIC CITY OF MITLA, STATE OF OAXACA, MEXICO.

(Scale 1/18)

The ruined city of Mitla is situated thirty miles southeast of the city of Oxaca, Mexico, and includes the remains of nearly a score of stone structures of unique architectural style. Its builders are popularly believed to have been the ancestors of one of the historic tribes of Southern Mexico, the Zapotecs or Miztecs

The model represents the best preserved of the buildings, being one of three facing a court 123 feet square. It stands today practically complete, save that the roof is gone. The platform, on which the building stands is from seven to ten feet in height, and is faced with moldings of perfectly fitted cut stones enclosing panels decorated with geometric mosaics. It was ascended by means of a stone stairway of nine steps bordered by projecting piers.

The building, which was probably devoted to sacred purposes,

consists of a hall 128 feet in length and 30 feet in width, and a communicating back building 60 feet square, comprising a square open court and four enclosing chambers. The walls are from four to five feet thick, and are preserved to nearly their full height (16 feet). The facing is of beautifully cut and fitted stone with elaborate and tasteful moldings and panelings, the latter ornamented with geometric mosaic fretwork formed of small cut stones set in the rubble filling of the wall.

The inside walls of the court and the upper three-fourths of the walls of the four chambers are finished in the same manner, as may be seen by ascending the steps placed at the side of the model. The roof has entirely disappeared, but evidence remains to indicate that it was flat, and supported by wooden beams covered wit cement. The roof beams of the large front chamber were supported in the middle by a row of six stone columns eleven feet high,which still stand. Details of construction are indicated in the model, the roof being partly restored for the purpose. Traces of color re-

main on protected parts of the exterior, showing that a part or the whole of the building was painted a light red. Portions of the plastered covering of the interior walls are of a dark red color, and appear to have been decorated in places with human figures painted in black lines.

The building is approached from the court by means of the stairway, and entered by the triple doorway, which is spanned by a great lintel formed of three stones weighing about ten tons each. These stones were obtained from the quarries in the mountains several miles away; they are ornamented with carved geometric designs in low relief. The court of the back building is reached by a narrow-covered passageway about 20 feet in length. Four doorways, spanned by great lintels, connect the enclosed court with the four chambers.

Constructed under the supervision of W. H. Holmes, by De-Lancey Gill, architect, H. W. Hendley, and W. H. Gill, sculptors.

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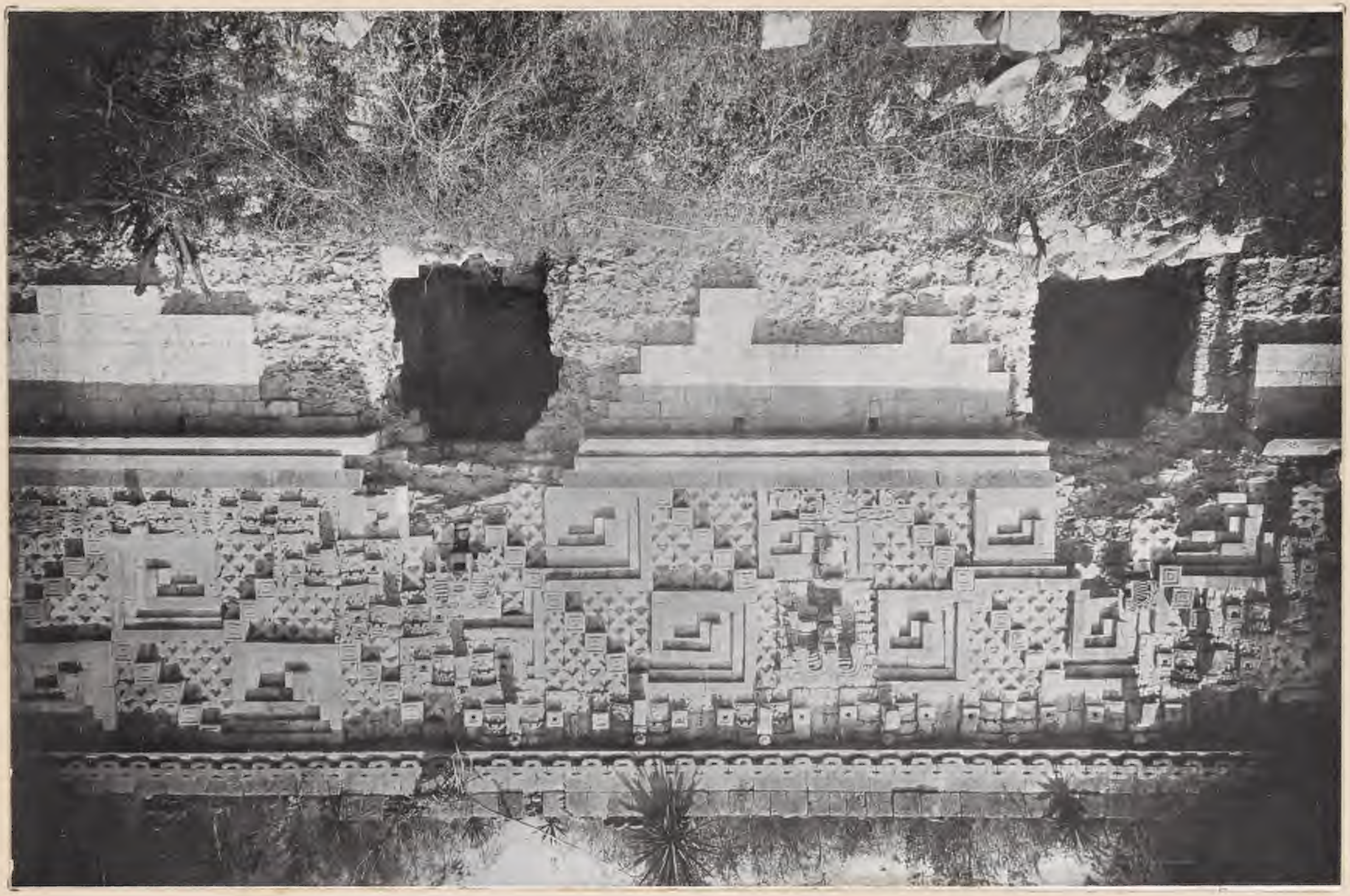
Model of Nettle runs
by [illegible]

Behind are Models of Lexmark
and Wednesbo



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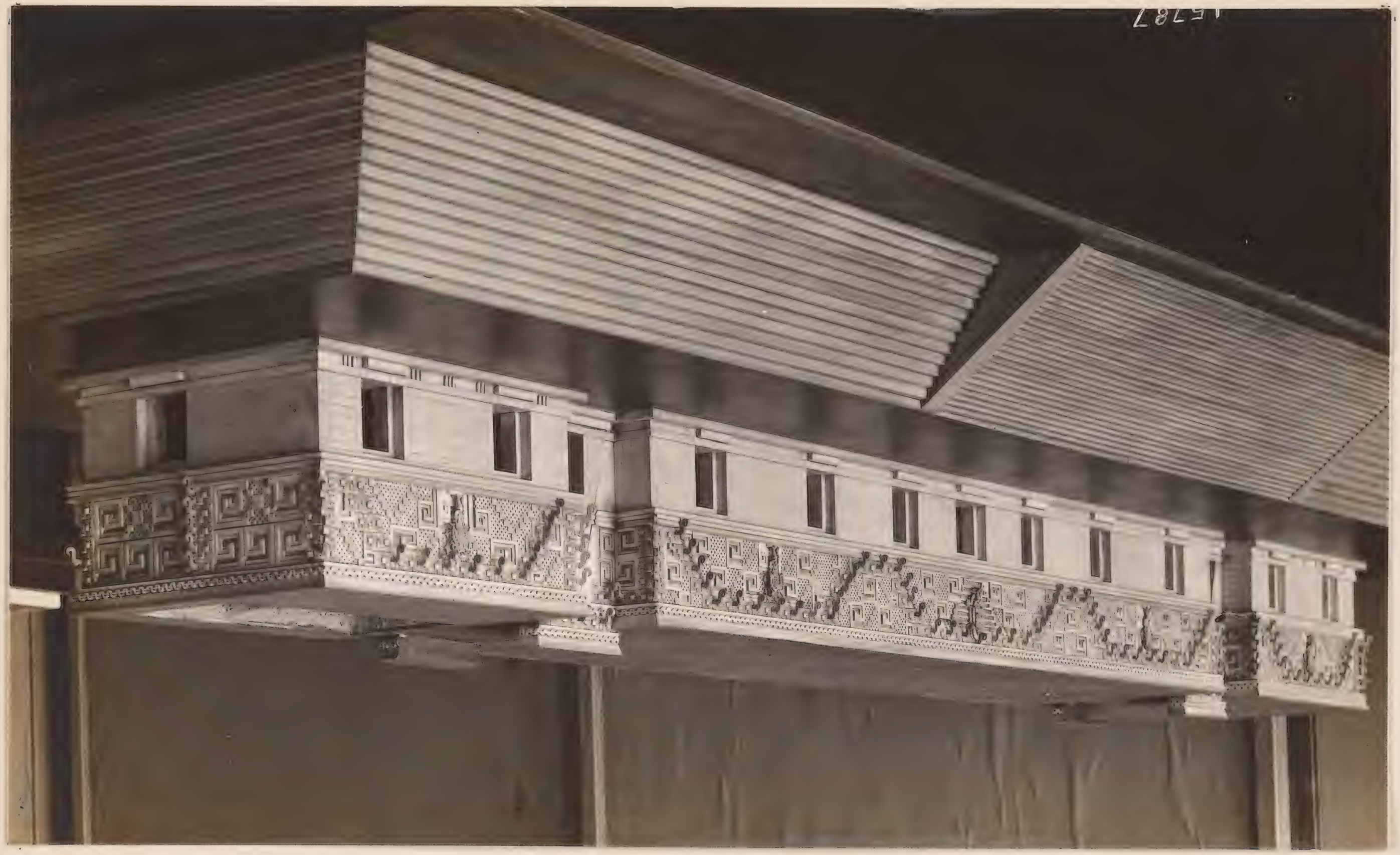

Received by [illegible]

Of uncertain date.

Name & Profession
Cuneiform lamps at Garstang
Jericho

Note - Please return - the only print I have of this negative
Negative ?
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Architecture of the American Indians, Model of the "Castle," Chichen-Itza, Yucatan.

The ruined city of Chichen-Itza is situated in the midest of the great forest-covered plain of northeastern Yucatan and was inhabited at least in part by the builders, the Maya Indians, on the arrival of the Spanish in 1525. This people still occupies the country to the number of several hundred thousands. The city covers a large area and contains many structures of extraordinary character and interest (see panoramic view).

This model represents the best preserved of the several pyramid-temples of the city, on a scale of 1-24. The structure is in the main well preserved, as indicated in the accompanying photographs, minor restorations being required at several points, but not involving the introduction of any feature not properly verified. The pyramid is approximately 190 feet square at the base, 60 feet square at the summit and 80 feet in height. In design and execution, this structure is of an exceptionally high order, indicating great progress in the architectural art. It has four great stairways, each about 30 feet in width and bordered by plain balustrades. The balustrades on the north side (front) terminate below in two great serpent heads ten feet in length, each carved from a single block of limestone (see illustration). The pyramid, which has nine steps or terraces, is built of coarse rubble cement, earth, and stones, and faced with blocks of hewn limestone, neatly dressed and taste-

fully paneled. It is believed that the stone was cut and the carving done mainly with stone tools.

The temple which surmounts the pyramid is about 44 by 48 feet square at the base and 24 feet in height. It is well preserved, save that a portion of the facade has fallen as a result of the decay of some of the wooden lintels that spanned the wide doorway. The walls and roof are four feet or more in thickness and the stones of the facing were so well cut and fitted as to require little mortar. As usual in Yucatecan buildings, the walls of the lower story are quite plain and are separated from the upper story by a heavy molding, which is ornamented with panels and surmounted by a cornice. In this case the cornice is crowned by a course of open fretwork of remarkable beauty. The lower story is pierced by four doorways, that on the north being 21 feet wide and 8 feet 6 inches high and furnished with two great stone columns supporting the wooden lintels and sculptured to represent the feathered serpent deity of Yucatecan mythology. Passing into the vestibule between these columns and through the second doorway, the visitor enters a large chamber the high ceiling of which is supported by two square sculptured columns. This chamber was doubtless a sanctuary and served some important purpose in the religious rites and ceremonies of the people of the city.

The accompanying plans and sections should be consulted by those who desire to understand the details of construction and the panoramic view will give an idea of the extent of the great

stone buildings and of the relation of this particular temple to the ancient city.

This model is finished in a manner to show clearly the details of construction and embellishment rather than to suggest the actual color, which is that of the weather-stained light-colored limestone used in construction. When occupied, the building was probably elaborately painted.

The model was built under the immediate direction of W. H. Holmes by DeLancey Gill, architect, and H. W. Hendley and W. H. Gill, sculptors. Some details of construction were obtained from the published works of A. P. Maudslay.

Architecture of the American Indians. Model of the "Palace" at Uxmal, Yucatan.

The great building here shown, 1-24 actual size is called "The Palace," or "House of the Governor," and is one of the chief structures in the ruined city of Uxmal, northern-central Yucatan. (See panoramic view.) The age of this city is not known, but it is believed to have been occupied by the original owners, the Maya, down to near the time of the Spanish conquest. As the accompanying photographs show, the building is still well preserved, and but little restoration has been necessary in completing the model. It is built of hewn lime tone and is 320 feet long, 40 feet wide, and 28 feet high. It rests on a three-storied, stepped pyramid. The upper pyramid, shown in the model, is 20 feet in height and is ascended by a stairway of thirty steps, 120 feet in length. The main pyramid is about 20 feet in height, but is so extensive, covering several acres, that it could not be shown in the model. The foundation story of the pyramid is only a few feet in height. These pyramids were doubtless faced with cut stone, but they have not been sufficiently explored to determine the exact character of the terracing and paneling.

The building proper is a massive rectangular structure with vertical walls perforated by eleven rectangular doorways on the front and a doorway at each end, and is pierced by two

pointed archways, 24 feet in height, passing entirely through the building. These arches are walled up now and divided into chambers, as is indicated on the plan which accompanies the model. In the model one of these portals is closed and the other is left open to show the construction. The building is exceedingly massive, about one-half of the entire bulk being solid masonry, The walls are from 3 to 5 feet thick, excepting the back wall, which is 9 feet thick, as is indicated in an accompanying section. The ground plan shown in the same connection indicates the size and arrangement of the rooms. There are no windows or roof openings, and the back rooms are necessarily very dark. The chambers are spanned by high, pointed arches faced with hewn stone, the insloping walls being connected above the flat capstones. The lower half of the wall, 14 feet in height, is plain, and contains the doorways, 9 feet high, which were spanned originally by wooden lintels, now entirely rotted away. The upper wall-zone is 14 feet in height, is separated from the lower by a heavy molding, and surmounted by a wide cornice. The intervening space is richly decorated with sculptures, consisting of human figures elaborately costumed, grotesque masks, and geometric fretwork, the whole including not fewer than ten thousand hewn stones separately carved and laid in mortar against the concrete filling of the wall, forming a great mosaic.

The use to which the building was devoted is not known. Since however, it appears to have been in many respects the most

prominent structure in the city, it was probably occupied by rulers of the state or by dignitaries of the priestly establishment.

The model is somewhat lighter in color than the building is today, but not more so than the limestone used in construction when fresh from the quarry. The walls still retain some traces of paint.

The model was constructed under the supervision of W. H. Holmes, by DeLancey Gill, architect, and H. W. Hendley and W. H. Gill,sculptors. Some details of construction were furnished by Mr. E. H. Thompson, and the works of Stevens, Le Plongeon, and other explorers were freely used.

A Section of the Façade of the Superstructure of the so-called "House of the Magician," the most commanding monument in the city of Uxmal, Yucatan.

pupils could easily have been brought to his native place. The Byzantine tone of certain frescoes need not make us change our opinion, since this tone is especially in the great fresco of St. Anthony of the Fire and in some others. It is not common to all. Indeed, some do not possess it at all. On the other hand, no one has asserted that the church was decorated with so many pictures at one period of time. Some of these, without doubt, are older than the others, a fact proved also by other circumstances. The pictures of the apse, for example, have a special style of their own. One, discovered quite lately, which is found at the bottom of the church, exactly behind the wall of the façade, is evidently more recent than those of the apse. The most ancient fresco, then, would be that most venerated one of St. Anthony, which is situated in the left nave, behind the beautiful pulpit. The disordered arrangement of the pictures, the making use of every corner, evidently done after the painting of the great spaces, show us that the paintings belong to different epochs. In any case those already liberated from the lime are very few in comparison with those still covered. Let us hope that the discoveries to be made under the government, which has recently acquired the church, may give us more light on the subject.

FIG. 7.—A Madonna. School of Giotto, retouched.

Rome, Italy

TO AN OLD COREAN TEMPLE GONG

When from some incommunicable dream
Your soul with startled, human cry awoke,
And with the voice of ancient living spoke,
Making the fleeting moment, that we deem
So small, one with eternity, a gleam
Of light athwart my soul's old memories broke . . .
I was aware of strange, familiar folk
In prayer . . . and you, hung from the temple beam . . .
And as their pulsing spirit spoke through you,
Stirring in me that rare remembrancing,
This life of earth was so with mystery blent
That for a space nor self nor time I knew,
What a great pang of beauty shuddering,
As it were God, and I His instrument.

New York City

EDNA KINGSLEY WALLACE

LA CASA DEL ADIVINO, UXMAL, YUCATAN

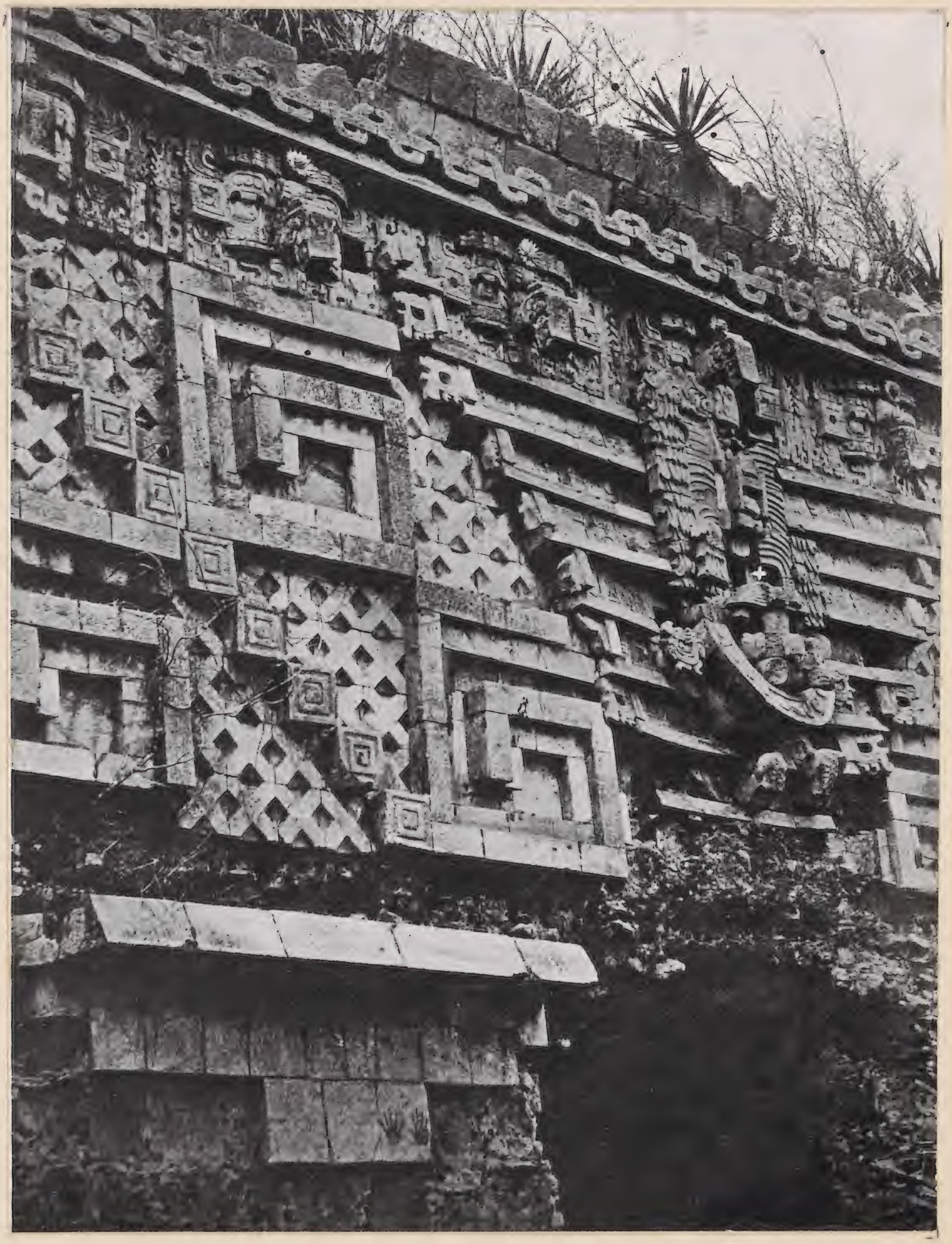
WILLIAM H. HOLMES

AMONG the many richly embellished temples now found in a state of ruin in Yucatan, none excel in beauty of design the so-called "House of the Magician," the most commanding monument in the city of Uxmal. The illustration opposite represents a section of the façade of the superstructure. The unique chapel-like structure in the foreground does not communicate in any way with the temple above, but is set against and at the base partly into the face of the pyramid. It was reached from the ground by a stairway sixty feet in height, now in a complete state of ruin. This building has two rooms without opening other than the doorway, which is of elegant design, and the entire façade is covered with embellishments that must challenge the admiration of all students.

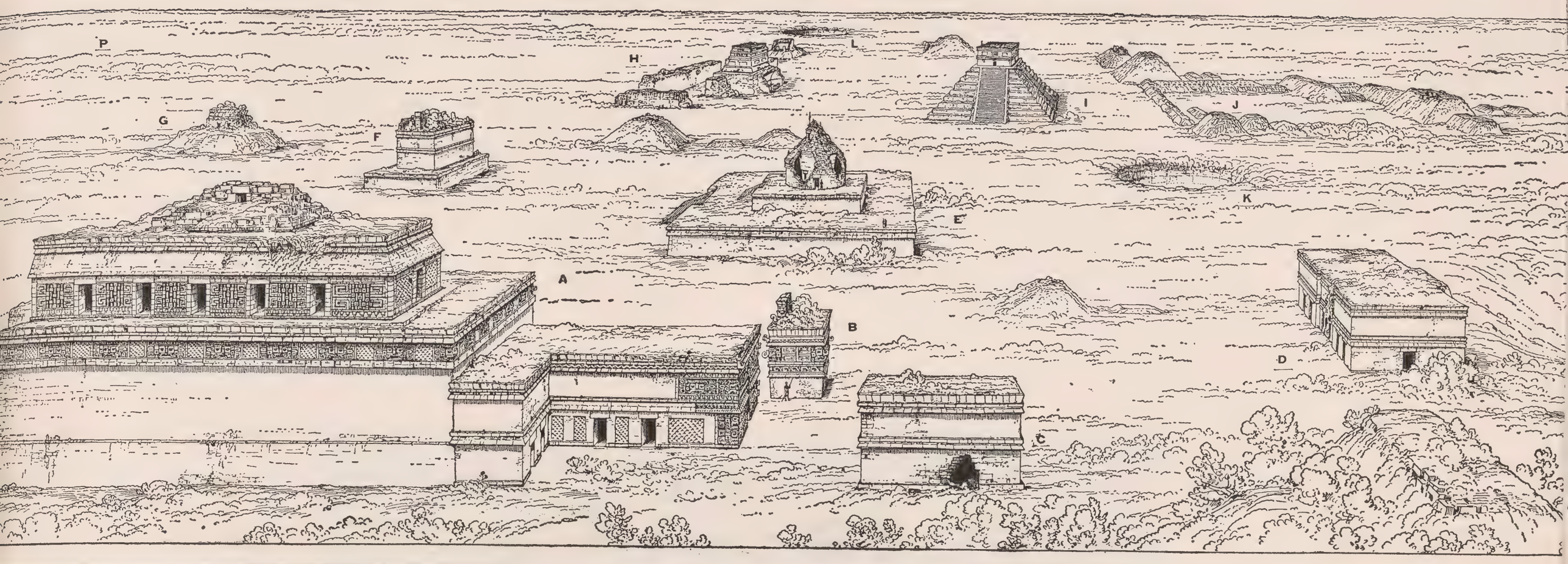
The overdoor panel was occupied by a great mask in high relief, portions of which remain, while in the lateral panels, mutilated human figures in high relief project from the richly carved background. Most striking of all is the treatment of the corners at the right and left, each of which is embellished with seven superposed masks representing the snouted serpent-bird deity of Mayan mythology. The upturned recurved snouts, bearing symbolic devices, are especially characteristic of Yucatecan mural design, as are also the eyes, teeth, tusks, and ear-ornaments of the masks. Immediately above the flat roof of this structure is seen a portion of the lower zone of the rear wall of the building which crowns the pyramid. The exquisite lace-like mosaic of the two great panels drawn with the most scrupulous care by Catherwood, himself an architect, is without parallel in native American art. The upper story of this building is embellished with formal masks, but the cornice is so badly broken down that its character cannot be fully made out.

The opposite front of the monument is ascended by an exceedingly steep and wide stairway about which, according to Stephens, cluster most gruesome stories of the sacrificial orgies of the ancients. "The padre Cogolludo, the historian, says that he once ascended these steps, and 'that when he attempted to descend he repented; his sight failed him, and he was in some danger.' He adds, that in the apartments of the building, which he calls 'small chapels,' were the 'idols,' and that there they made sacrifices of men, women, and children. Beyond doubt, this lofty building was a great teocali, 'El grande de los Kues,' the great temple of idols worshipped by the people of Uxmal, consecrated, by their most mysterious rites, the holiest of their holy places." The padre then proceeds to relate in much detail an exceedingly gruesome story of the sacrifice of human beings which, as we well know, was a leading feature of the worship of the gods of the Aztecs; but that he had any real knowledge of such sacrifice by the worshippers in this particular temple may well be doubted. We know, however, that while religion was responsible for the development of all that was refined and poetic in the culture of the race, it retained in its sacred practices survivals from the very depths of savagery.

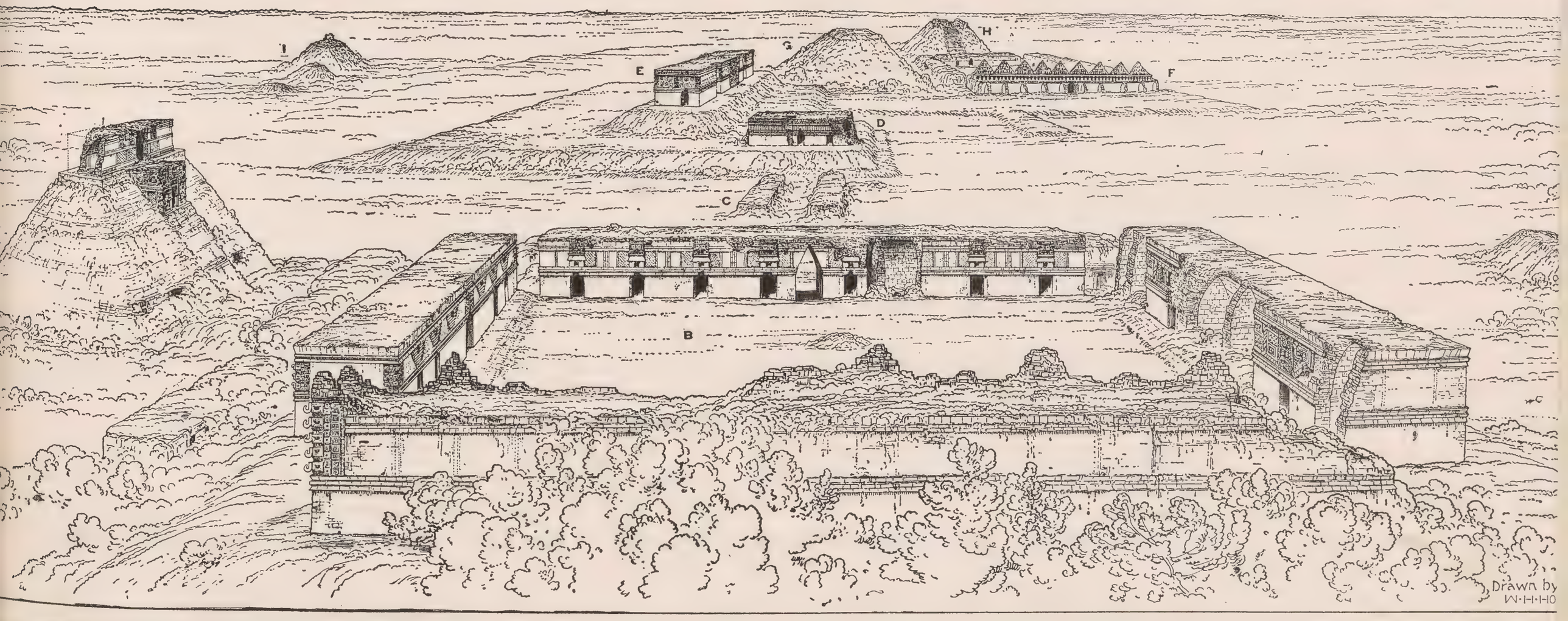
Iphigenia among the Taurians at the University of Michigan, March 29, 1917: The Cast, with the Chorus and Barbarian Soldiers.



PANORAMA OF CHICHEN-ITZA, YUCATAN.



PANORAMA OF RUINS AT UXMAL, YUCATAN.



Panorama by W.H.H.H., 1895

THE FEATHERED SERPENT COLUMNS OF CHICHEN ITZA

by

W. H. HOLMES.

The present decade is witnessing a most gratifying public awakening to the importance of American archeology as a branch of research, and this popularity is greatly enhanced by the accumulation of illustrative material in our museums and by the elaborate displays made at our international and other expositions. In this field Yucatan and the culture of the ancient Maya race hold the center of the stage, and the extensive exhibit now in preparation for the Panama-California Exposition, to be held in San Diego next year, will unquestionably excel anything of its kind yet prepared within the limits of the United States. The plate opposite represents a model of one of the many remarkable carved stone columns

of Chichen Itza, Yucatan, remnants of which remain in place at the entrance of numerous temples while many fragments are scattered down the slopes of the pryamids or lie buried in the great masses of debris about their bases. These columns occur always in pairs dividing the wide portal and support the wooden lintels which rest on the horizontal offset at the back. No single entire example of these columns is in place today. Falling walls have broken away the projecting parts and vandals have battered the heads of the serpents, thus wreaking vengeance on the false gods of the aborigines.

The feathered serpent god, Quetzalcoatl of the Aztecs, (quetzal - a beautifully plumaged bird of Middle America, and coatl - the snake), and the corresponding deity, Kukulkan of the Maya peoples (kukul - bird, and

MASTERPIECES OF ABORIGINAL AMERICAN ART

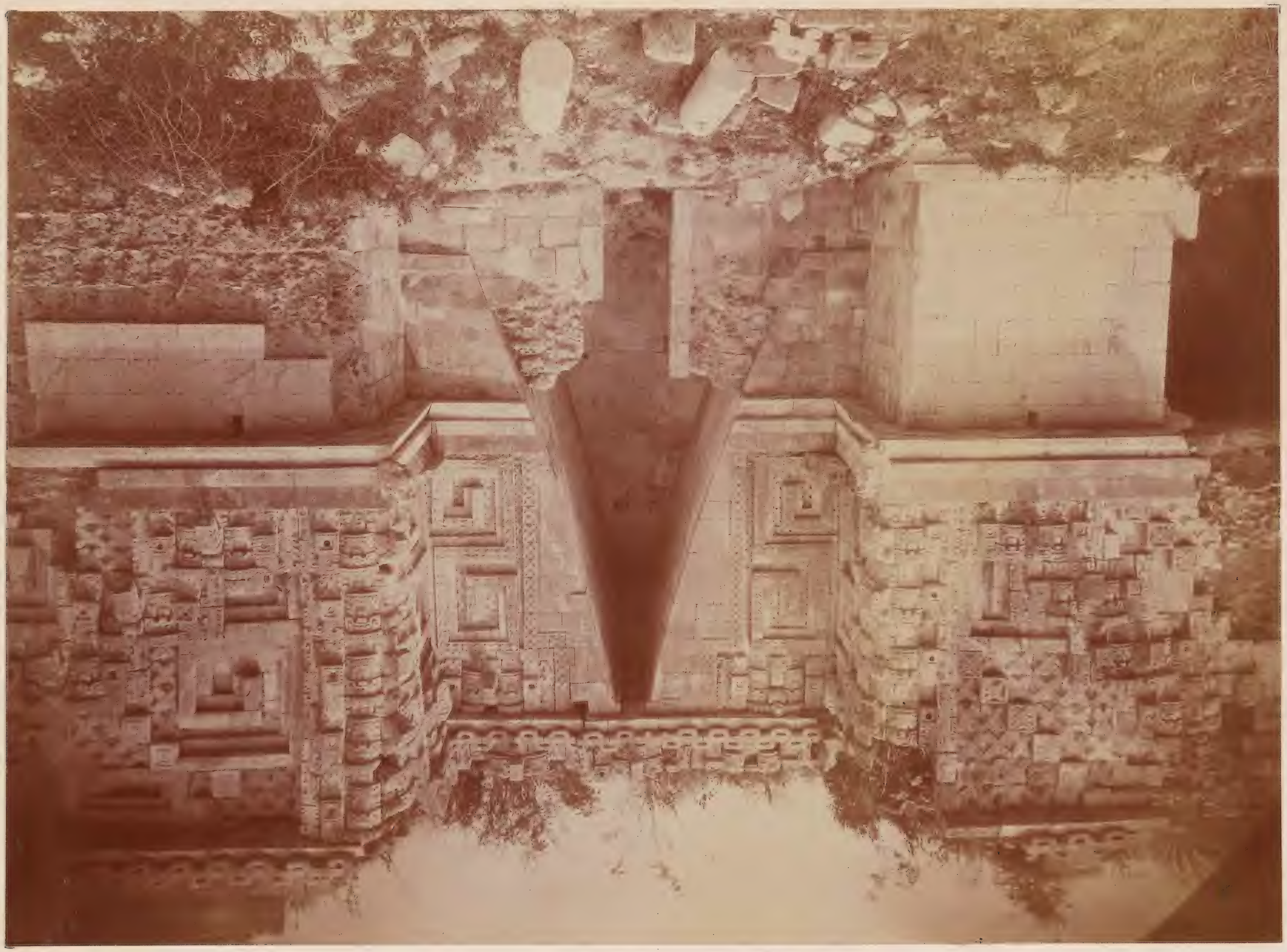
THE HOUSE OF THE GOVERNOR UXMAL, YUCATAN

Perhaps no other monument of the American aboriginal peoples better represents the noble character of the native genius and the energies of execution than the Casa del Gobernador, the house of the Governor Uxmal. It is nobly designed and nobly placed and would today be bearing upon its adamantive roof, the full grown tropical forest had it not been removed by the axe. The destructive forces of nature, storms and earthquakes have been for possibly 20 centuries engaged in demolition. The deep growing roots of the forest trees have penetrated its walls and pried the stones apart and the massive trunks have fallen mutilating the multitude of projecting sculptured ornaments. All of the agencies of destruction, perhaps the rotting out of the zapoie wood lintels of the square doorways, has been the most destructive and each doorway today is a ragged gash in the masonry and this work is going on today. Great as the conception and great as the realization,

it is apparent that the designers were as yet but recent venturers in the arts of building in stone. The use of wood shows inexperience, they were ignorant of the keystone arch, the offset arches employed soon gave out and masses of masonry were employed.

Hendley

Unusual coloration
by mutation



MASTERPIECES OF ABORIGINAL AMERICAN ART

VI. WORK OF THE GOLDSMITH.

By W. H. Holmes.

The discovery of the New World opened a fascinating chapter in the history of human enterprise and achievement, and dreams of conquest and visions of fabulous riches fired the imagination of the peoples of western Europe. No single agency perhaps proved more potent in stirring the spirit of adventure than the discovery of gold in possession of the natives encountered by Columbus along the northern coast of South America. The precious metal was found, not in sparing quantities, as in the Old World, but apparently in plenty and in common use. This fact gave rise to the assumption that mines of marvelous richness were known to the natives. The search for these, however, proved disappointing, as the natives were not inclined to surrender their secrets and probably took steps to keep their mines from the knowledge of the invaders. Such mines as were found did not yield the vast returns expected and disappointed the conquerors proceeded to plunder the people and extortion of the most barborous kind was practiced - a blot on the face of civilization. But all personal belongings in the precious metal quickly vanished, and the invaders were again baffled. It came to their knowledge, however, that the objects of gold, which took a multitude of forms, were not valued simply as trinkets - as personal ornaments, but were invested by the

(39)

Evening Star Oct 29, 1916.

Feathered Serpent Columns

Wash. Oct. 29. 1916

Constructed by W. H. Holmes

AT the National Museum last week a weird and beautiful model was erected. At the front entrance of the building have been placed two great columns surmounted by lintels of wood, the whole forming an arch. Undoubtedly the sightseer as he passes through will be interested. Perhaps he will feel something of the spirit that lies in wait at the door of every great cathedral or church, for the religious history of the original columns is a very ancient one. From them has been learned much concerning the aborigines of Central America.

The design of the columns is unique, for it is the expression of a religion fascinating in its fantasy. That these ancient peoples were very religious is demonstrated by the number of temple ruins recently found in and about Chichen Itza, Yucatan. Archeology has disclosed the fact that at the portal of every place of worship two great columns stood guard. No single complete example of these columns has ever been found, and the erection of the model in the museum was made possible under the personal direction of Dr. W. H. Holmes of the National Museum, who is quite familiar with all that remains of the ancient sculptures

"American archeology, as a branch of research, has become more generally popular every year, and there is no part of the work holding greater interest than the discoveries in Yucatan," said Dr. Holmes.

"I have eagerly watched the construction of our model of those great-feathered serpent columns found in the neighborhood of Yucatan at the entrance of numerous temples and frequently scattered down the slopes of the pyramids or buried in the great mass of debris about their bases.

"These columns occur always in pairs, dividing the wide portal, and support the wooden lintels which rest on the horizontal offset at the back. The columns have been usually found with the projecting parts broken away and the heads of the serpents battered by vandals who thus declared their contempt for the false gods of the aborigines.

"The significance of the column is a very fascinating one common to nearly every branch of native art. The feathered serpent god Quetzalcoatl of the Aztecs (quetzal—a beautifully plumaged bird of middle America, and coatl—the snake), and the corresponding deity Kulkulkan of the Maya peoples (kulkul—bird, and kan—snake), held first place in the mythology of these peoples. Nearly the entire surface of the body represented in the column is covered with plumage typifying the bird element, while the general conformation, the projecting tongue, bulbous fangs, fear-inspiring eyes and beaded rattles symbolize the snake. The desire of the peoples was apparently for a god that like the bird could fly and yet had the readiness to strike characteristic of the snake.

"Photographs, descriptions and measurements were all necessary to the building of the model. The several parts were first modeled in clay. A mold of these was made in plaster and the sections cast, set up and joined. The columns are colored in close imitation of the originals as they would appear when newly carved. The originals were surmounted by lintels of wood, which rested upon the offset at the back, and together with the lateral

XIX

natives with supernatural attributes of the highest importance to the owners, and further that they were often buried with the dead as passports to the life beyond. The graves of the people were thus their treasure houses, and the ghoulish work of opening and ransacking these became an important industry and from that day to this the work of exhumation has continued almost without interruption. That these graveyard mines have yielded riches beyond estimate and that the majority of the finds made have gone to the melting pot are well known facts. But the burial places were not the only depositories of offerings to the imaginary rulers of the spirit world. In common with many other peoples in corresponding stages of cultural development, elaborate religious festivals were held at stated periods and the spots selected for the purpose were such as were believed to be the chosen resorts of the gods. On these occasions offerings were made of the most precious treasures that the people possessed. In some unknown manner it came to the knowledge of the Spaniards that one of these places of sacrifice was a deep lakelet called Guatavita, one of a group of six small lakes situated high up in the mountain fastnesses of northern Columbia. As the story goes, the Cacique of the province, who exercised also the functions of the high priest, conducted elaborate festivities on Lake Guatavita, during which no end of precious things were cast into the waters as offerings. The ceremony, minutely described by the Spanish

historians, commenced always with foot races in which the five sacred lakes were visited in turn and small offerings made. The Indian who returned to Lake Guatavita first was acclaimed winner and awarded a royal cotton mantle, being thus ennobled and privileged to eat meat, a favor denied to the common people. Many of their best runners over-exerted themselves and dropped dead on the road, to be buried where they fell and looked upon as saints.

The religious ceremony next took place. Rafts, constructed of rushes and light wood, with braziers to burn turpentine and sweet smelling gums, carried the numerous Caciques with their rich treasure of gold and emeralds. The largest raft was reserved for the high priest and ruler who, stripped of his clothing, was rubbed over with a thin coat of clay upon which gold dust was plentifully sprinkled until he appeared a gilded man, a fitting representative of the Sun God. The braziers were lit and on shore large fires were kindled, until the smoke was dense enough to obscure the sun. The rafts were then propelled towards the center of the lake amid the din of musical instruments and the cheering of the surrounding multitude. After consigning the offerings with suitable incantations to the waters, the Cacique cast himself into the lake, washed off the gold dust and returned to the raft the man of flesh and blood. During the rites the multitude had to stand with their backs to the high priest and throw in their small contributions backwards

over their shoulders. Enormous quantities of chicha, a beer made from Indian corn, were drunk and the festivities always ended with a series of orgies and drunken debauches lasting days or even weeks.

Besides the wealth of gold and other precious possessions thus thrown into the lake on these occasions, it is recorded that when the Guatavita people were conquered by a neighboring tribe their entire sacred hoard was thrown into the lake. A similar sacrifice was made by a succeeding ruler when he finally submitted to the Spanish invaders. Although exaggeration doubtless plays a large part in these stories, there is said to be authentic evidence that the one Cacique alone on the latter occasion sacrificed to the lake two tons of gold and precious stones.

In recent centuries fortune after fortune has been spent in attempts to drain this lake and to-day the work is said to be practically complete, but the vast deposits of soft mud accumulated during unrecorded centuries have so far effectually prevented the recovery of such of the golden treasure as may have ~~accumulated at~~ settled in the bottom of the bowl-shaped basin.

In the mind of the vast majority of our people the American Indian is a savage or at most a simple barbarian, and even the student finds it difficult to overcome this impression and to award the native races the credit due them. In preceding articles of this series I have presented

pictorial evidence of their remarkable achievements in architecture, sculpture, stucco work and mosaic, all of which branches furnish ample evidence of the justice of the claim that the race in numerous centers of progress had at the period of the conquest and doubtless long before achieved a state of culture well within the realm of civilization. By patient study of the remains of their handiwork we seek to penetrate the dense veil that time has cast over their past; but prehistoric researches, upon which we must mainly depend for illumination, are hardly more than in the beginning stages, and the metallurgic arts here especially referred to are among the last to receive adequate attention.

Assuming that the metallurgic arts of the Middle Americans are of purely aboriginal development, we may picture the simple savage of the remote past venturing as a newcomer into the land of golden sands and beholding beneath his feet for the first time the glittering bits of yellow metal. Their brilliancy and golden hue would suggest to his mind at once kinship with the ruler of the day - with the sun, the central deity of the native pantheon. To him they would be invested with a share of the sun's mysterious attributes and would be adopted as his personal guardian. Kept about his person they would serve to protect him from the malevolent influences - the spirits of evil, which ever haunt the savage mind. It is not difficult to realize how familiarity with these bits of gold would in the course of time lead to

the discovery that they differed from the many varieties of stone with which he was accustomed to deal and which he shaped to suit his needs by the fracturing and crumbling processes long known to his people. He would learn for the first time that the treasured sunstone could not be shaped by known methods, but experiment would develop the peculiar quality of malleability and the art of the goldsmith would be born. The natural form of the nugget, possibly already suggesting some revered life form, would be modified by hammering to make its likeness more apparent; and step by step throughout the ages his race would acquire the skill displayed in the remarkable works which the ~~greed of the~~ conquering race make haste to sacrifice to ~~the purposes of their~~ sordid greed.

There has been much speculation regarding the nature of the processes so skillfully employed by the aboriginal goldsmith and uncertainty is not yet wholly removed. In the normal course of cultural development the stone hammer, with the complementary anvil stone, would be the first implement used. Modification of the natural form of nuggets of gold would readily be made, but the result would necessarily be crude. The first product of importance by this process was doubtless the thin sheets much employed in the making of ornaments by cutting out desired shapes and perforating them for suspension. It was an easy step from the beating out of thin sheets to the discovery of the processes of embossing or repousse'. By placing the sheets over designs

worked out in stone or baked clay and pressing or beating them into the form, many interesting and attractive objects were produced. The modeling and carving of moulds for this purpose was an important feature of the metal workers art. Specimens of these are preserved in our museums, and one example in black slate, not over four inches in length, has carved upon its several faces nine different figures in relief and in intaglio. The thin sheets were used also in making hollow figures by working them over models composed of materials which could be melted or burned out when the shaping was complete. The highest achievements by this process now at hand are certain human figures, idols doubtless, worked out in the full round. One of these illustrated in figure __ upwards of 6 is ~~sixteen~~ inches in height. Although a masterpiece of metallurgic skill, it has but slight claim as a work of art.

Casting in gold doubtless soon followed the discovery of methods of fusing the metal, but piece moulds, so much used by other peoples, were apparently unknown. Among the multitude of cast objects preserved there are none which show the characteristic traces which necessarily result from the setting together of the sections of the mould. It appears that the model of the object to be cast was, as a rule, built up in its completeness in some plastic substance as wax and covered in with thick coatings of potter's clay. When subjected to heat the core was melted or burned out

and the molten gold poured in. A detailed description of the processes of preparing moulds and casting in gold by the Aztecs was translated from the original Aztec by Father Sahagun, the great historian of the Colombian period. Upwards of thirty separate steps are enumerated and, notwithstanding the obscurity of the language, the method suggested above cannot be far wrong. The description seems to refer also to processes of casting hollow figures as well as the solid, as, for example, in the casting of globular bells with the tinkling pellets unattached but prisoners within.

It has been surmised by some that these goldsmiths had knowledge of a process by means of which the gold was made plastic and thus manipulated with the freedom of clay, but this idea finds few supporters. In modeling elaborate figures the material was often treated **en** masse and then again by building up of numerous parts. Wire-like strands were extensively and most skillfully used and in ways possible with fully plastic materials only.

By these varied processes figures in pure gold as well as in alloys of gold, silver, and copper, were made representing men and women and nearly every type of animal form known to the people, and fanciful forms without end were also produced. These figures in most, if not in all, cases represented mythical personages or were invested with supernatural attributes of one kind or another, and many doubtless were objects of veneration and worship. The

embellishments of the figures were often very elaborate and served not only to increase their attractiveness, but to suggest the diversified attributes of the sacred personages represented. The images were generally single, but in some cases are associated in pairs or in large groups. One remarkable example, figure _____, embodies ten human figures and is doubtless intended to represent a religious ceremony or dance, the director of the ceremony being much larger than his helpers. He wears a special head dress of coiled wire and carries a wand of office. It has been surmised by the writer that the subject thus presented may be the ceremony of sacrifice on Lake Guatavita, the circular base with its leading strands of wire being the balsa or raft. The group seems to have been cast in its entirety, although it is possible that the several figures were separately cast and fixed to the platform by soldering. It serves to illustrate both the ingenuity and the artistic strivings of the people.

The purely formal ornaments intended for attachment to the person and employed also in embellishing the metal figures are often very tasteful in design, the two nose rings shown in figures $\overline{x}$ and $\overline{x}$ being excellent examples. Pendants were extensively used and take a multitude of forms. The necklaces of little bells, figure $\overline{x}$, are especially attractive.

Naturally the personal adornments employed by peoples of corresponding states of culture are somewhat alike, and

the manner of wearing the golden embellishments of the ancient Americans finds a striking parallel in India to-day, as indicated in figures $\overline{x}$ and $\bar{x}$, which represent dancing girls of Calcutta. There is almost complete identity from head to foot. Among these embellishments are jewels for the head and hair, buttons for the forehead, chin and cheeks, pendants for the nose and ears, necklaces, belts, armlets, anklets, and rings for the fingers and toes. It is a noteworthy fact that the personal ornaments of the peoples of southern Asia in early Christian and in pre-Christian centuries, obtained as are the American trinkets from burial places, are so like those of the ancient Americans that should they be intermingled, an expert would have difficulty in fully separating them. The suggestion is natural that these correspondences may be due to early intercourse between the peoples of the far East and the far West, and this seems not unreasonable since the intervening waters present no barrier impassable for ocean voyagers of any period.

The climax of cultural development among the Toltecs and Aztecs of Mexico and the Mayas of Yucatan on the north and the Peruvians on the south was probably reached in the earlier centuries of the Christian era. The status of these cultures was in general far in advance of that of the Colombian region, and the remarkable development in the metallurgic arts in the latter province probably belongs to a much later period.

~~It appears that~~ The goldsmith's art of Colombia ~~has a most suggestive~~ bearing on the problems of aesthetic evolution. It is observed that the utilitarian element is ~~almost entirely wanting~~ negligible, ~~and~~ that the things made were almost exclusively ~~in~~ within the fields of personal embellishment and religious symbolism. Superficially considered, it might appear that the motive of personal embellishment dominated largely, but closer analysis shows that the underlying force, the inspiration, was religious in nature. As already indicated, ~~I feel justified in~~ it seems reasonable to assuming that in the beginning of the golden age of Colombia the objects of yellow metal when found were associated with the person, not as embellishments, but treasured in their natural form, perhaps even secreted about the person, because of their imagined connection with the mysterious powers of good or evil. It is clear that as the art advanced the elaboration subserved largely the requirements of religion, and this much is beyond dispute, that the utilization of life forms, real and imaginary, was due to religious incentive; and it was the utilization of these motives that carried the art into its higher phases - technical, ornamental and emblematic. This suggestion may not be passed over lightly, for critical examination of the course of art development with all peoples demonstrates the fact that the aesthetic everywhere is the fruit of symbolism. The arts of simple utility do not lead in any large degree

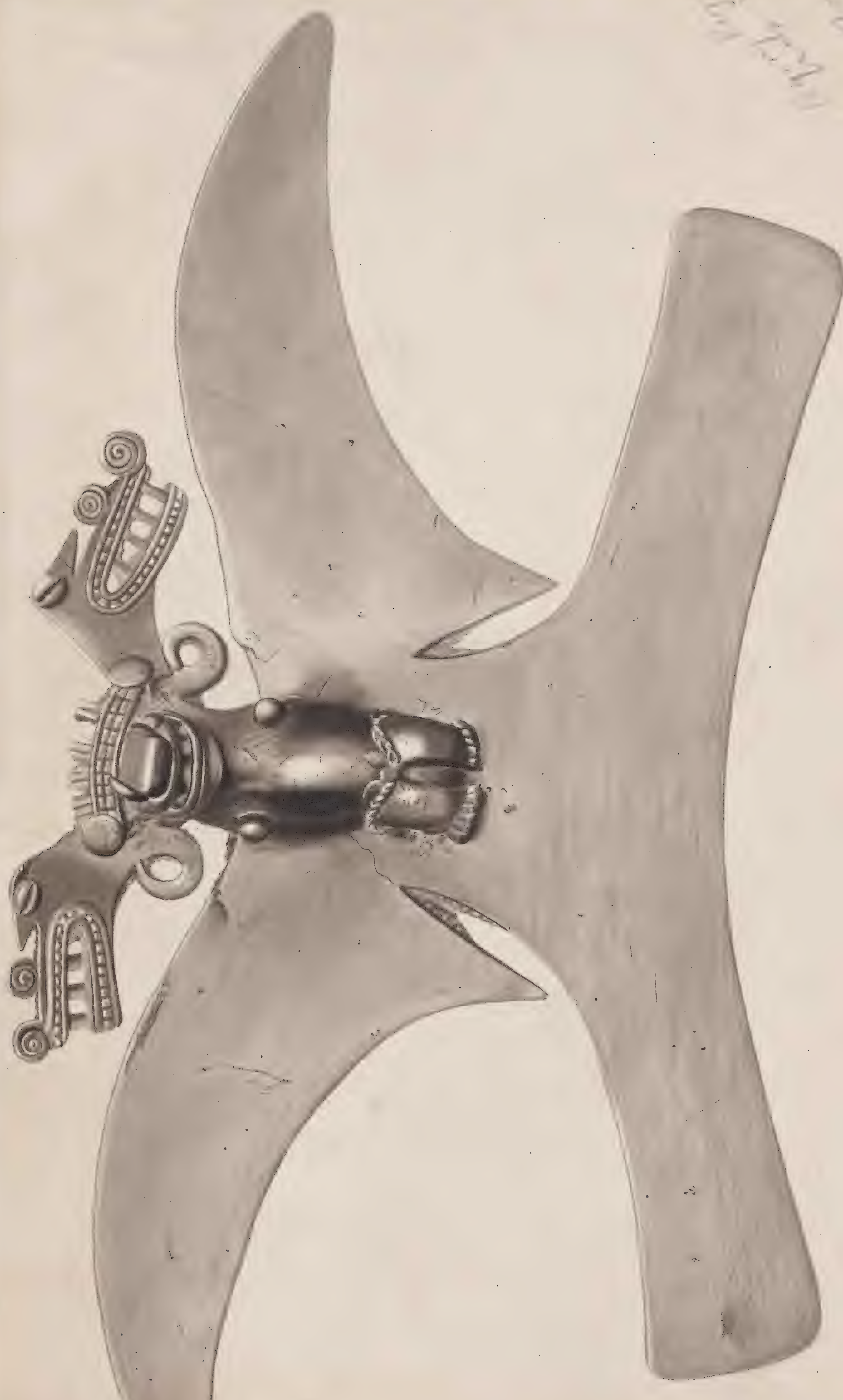
in the direction of the aesthetic, and the scope of the personal extends but little beyond the embellishment of the person. The personal motive is not responsible even for the higher achievements within its own narrow domain. Religious inspiration has the same place and trend always and everywhere, whether of the lowest forms of superstition or the highest forms of religion known to civilization. Without the religious motive, the imagination itself would have remained ~~forever~~ in the crysalid state, and the fine arts would be non-existent. The building arts would provide comfortable dwellings and adequate places of business and defense. Painting would serve the purposes of surface protection, and sculpture would be the hand-maid of industry simply. Without the divine spark, the lamp of literature and poesy would never have been lit and art in general would not have risen above the level characteristic of an uninspired and common-place barbarism.

U. S. National Museum.

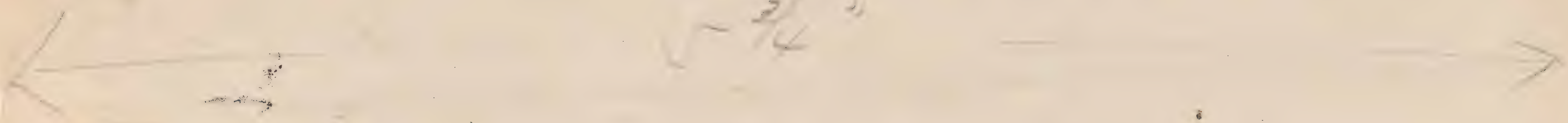
VOLUME XV

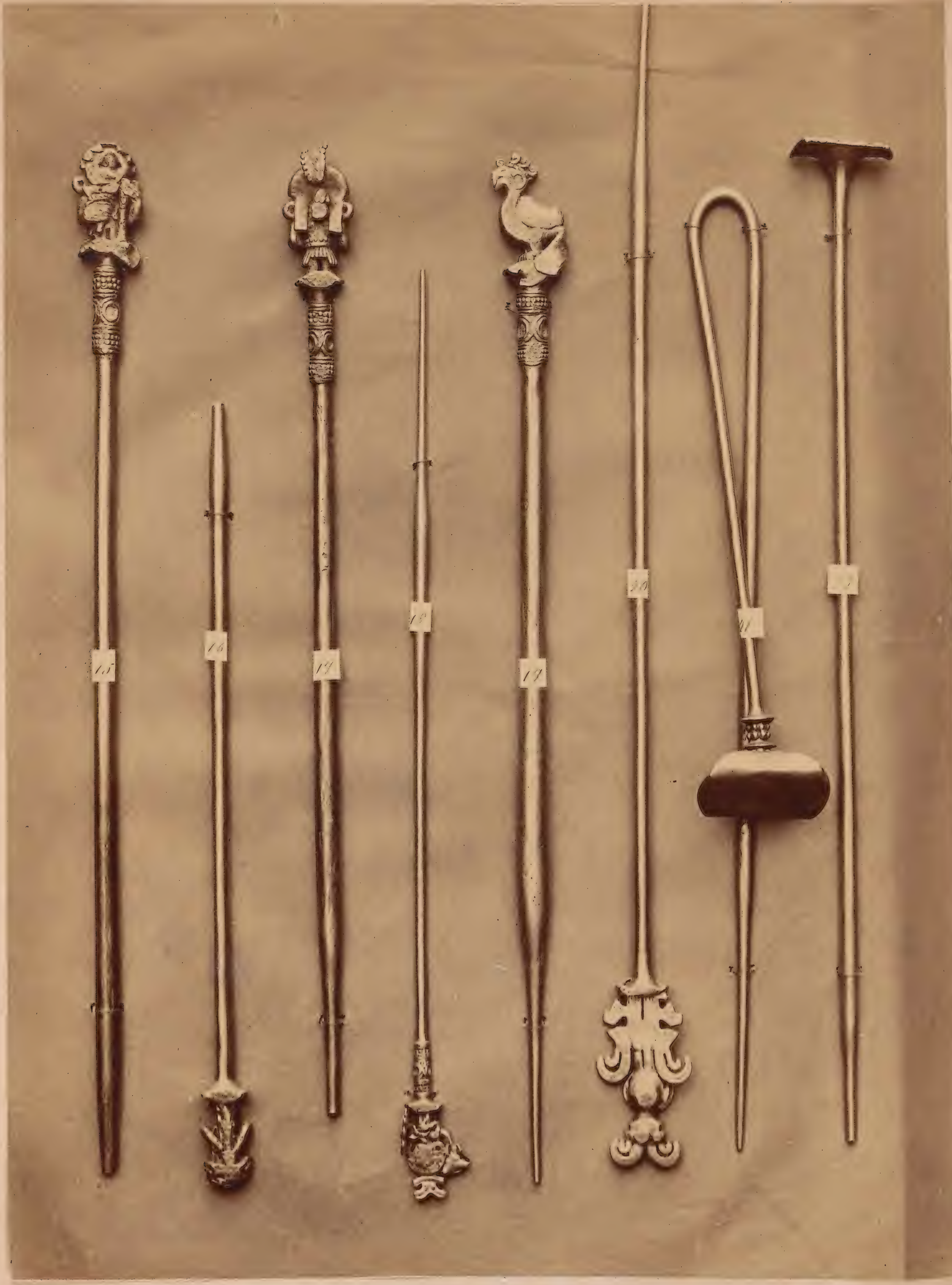
SECTION VII METAL WORK

Image in gold 12 inches high
in collection of Capt. H.R. Hemley, Columbia, S.A
about 1880!



Sanfa 1919





Gold - Colombia. 1/4

Objects of gold and gold alloy from Colombia, South America.

Brought by Capt. H.R. Lemly to the Chicago Exposition, 1893. Now in the Feild Museum of atural History, Chicago, Ill.

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76

VOLUME XV

SECTION VIII PERU-BOLIVIAN EXAMPLES

An extensive literature exists on the historical archaeology of the region

POTTERY OF PERU

In its pottery forms, and their embellishment, Peru comes well to the front, the types suggesting the refined shapes of the Mediterranean. The bottles with flaring rims, long necks and conical base being especially worthy of note as illustrating especial refinement of taste. The question of the possible influence of Old World art on the art of Peru may well be raised but may never be answered.

Washington, D. C., U.S.A.
August 17, 1919.

It is characteristic of cultures nations that they prize and treasure all that relates to their national history, the earlier records being especially precious. The astonishing collection of documentary records assembled by Sr. Jose M. Corbacho and displayed in the Smithsonian Institution relating to Peruvian national history is unsurpassed in America. It redounds to the honor of the state and examplifies the energy and wisdom of the patriotic collector.

Head Curator, Department
of Anthropology, U.S.N.M.
and Curator of the National
Gallery of Art.

RANDOM RECORDS OF A LIFETIME

DEVOTED TO SCIENCE AND ART, 1846-1932

BY W. H. HOLMES

LIST OF VOLUMES

Volume I. Brief Biography, Positions Held, Loubat Prizes, Medals, etc., Societies and Clubs, Bibliography.

II. Explorations, Episodes and Adventures, Expositions and Congresses.

III. Part I. Yellowstone Explorations, 1872.
Part II. Yellowstone Explorations, 1878.

IV. Part I. Colorado Explorations, 1873, 74, 75, 76 & 87.

V. Europe 1879-80; Grand Canyon of the Colorado; Explorations in Mexico with Jackson and the Chains; Colorado with Powell and Langley, 1887.

VI. Aboriginal Bowlder Quarries, Piney Branch, D. C., Soapstone Quarries, Paint Mines, and Lay Figure Groups.

VII. The Chicago Venture, University Exposition, Field Museum, Yucatan, Return to Washington, 1892-97.

VIII. Cuba with Powell; Jamaica with Langley; Mexico with Gilbert and Dutton; California with McGee; Physical Anthropology, Hrdlicka, Current Work 1900.

IX. Chief Period, Bureau of American Ethnology, 1902-1910; Visits to Stutgart and Chile 1908.

X. Transfer to the Museum June 10, 1910, the Guatemalian Trip, Powell Monuments, Seventieth Birthday Celebration, 1920.

XI. Director of the National Gallery of Art, 1920-1932.

XII. The Freer Gallery of Art.

XIII. Portraits, Smithsonian Institution.

XIV. Portraits, Bureau of American Ethnology. National Gallery of Art, and Miscellaneous.

XV. Masterpieces of Aboriginal American Art.

XVI. Various Articles on Art and the Art Gallery.

XVII. Personal.

XVIII. Personal.

XIX. Personal.

XX. Personal. Water Color Sketches.

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